



ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE

COUNTY BOROUGH OF CARDIFF,

FOR THE YEAR 1901.

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MEDICAL OFFICER OF HEALTH.

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CARDIFF URBAN SANITARY AUTHORITY
COUNTY BOROUGH OF CARDIFF.

Health and Port Sanitary Committee.

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Cardiff Urban Sanitary Authority.

TOWN HALL,

CARDIFF,

June, 1902.

TO THE CHAIRMAN AND MEMBERS OF THE

CARDIFF URBAN SANITARY AUTHORITY.

GENTLEMEN,

I have the honour of submitting to you my Report for the year 1901, made in accordance with the Local Government Board's Order of March, 1891, which specifies the information to be contained in the Annual Reports of Medical Officers of Health.

A Memorandum, issued by the Board's Medical Officer, dated October, 1901, directs that—"the Report should be chiefly concerned with the conditions affecting health in the district and with the means for improving those conditions. It should contain an account, brought up to the end of the year under review, of the Sanitary circumstances of the district, and of any improvement or deterioration which may have occurred during the year in those circumstances. Care should be taken to report fully and explicitly on the influences affecting or threatening to affect injuriously the public health in the district, and on the action which has been taken, or which may still be needed, with a view to combat those influences. It is of especial importance that the Medical Officer of Health should record what action has been taken to remedy unhealthy conditions which have been reported by him in previous Annual Reports, or in special reports presented during the year under review, and that attention should be called afresh year by year to such as remain unremedied."

The Report will, therefore, contain information relating to the following subjects :—

- (1) Physical features, general character, meteorology and vital statistics of the district.
- (2) House accommodation, especially for the working class: Its adequacy and fitness. Sufficiency of open space about houses, and cleanliness of surroundings.
- (3) Sewerage and Drainage: Its sufficiency in all parts of the district.
- (4) Removal and disposal of house refuse.
- (5) Water Supply of the District: Sufficiency, wholesomeness, and freedom from risks of pollution.
- (6) Places over which the Council have supervision, *e.g.*, Lodging-houses, Slaughter-houses, Bakehouses, Dairies, Cowsheds and Milkshops, Factories and Workshops, and offensive trades.
- (7) Nuisances: Proceedings for their abatement.
- (8) Methods of dealing with Infectious Diseases: Notification; Isolation Hospital accommodation and disinfection.

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CARDIFF URBAN SANITARY AUTHORITY.

Medical Officer of Health's Department.

Medical Officer of Health :
EDWARD WALFORD, M.D., D.P.H.

Chief Inspector of Nuisances :
D. VAUGHAN.

District Inspectors :

T. W. WARREN*

J. W. HOLDEN*

S. EVANS*

W. FISHER*

F. GLOVER*

S. R. HENDERSON.*

Inspectors for Infectious Diseases :
GEO. THOMAS*

A. F. MALE*

Inspector of Lodging Houses :
E. J. MANDERS*

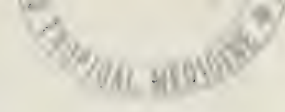
Inspector of Dairies, Cowsheds, and Milkshops, and under Sale of Food and Drugs Acts :
A. GREEN.

Inspector under Shop Hours Act and Inspector of Workshops :
J. ASHMAN.

Disinfector.
F. DAVEY.

Senior Clerk :
A. B. BULLEY.

Junior Clerk :
I. STANLEY.



The memorandum also calls attention to the new Factory and Workshops Act of 1901, which came into force on January 1st, 1902, and which requires that:—

"The Medical Officer of Health shall, in his annual report to the Sanitary Authority, report specifically on the administration of this Act in Workshops and Work-places, and he shall send a copy of his annual report, or so much of it as deals with this subject, to the Secretary of State."

The Municipal Borough of Cardiff originally comprised the Parishes of St. John the Baptist and St. Mary the Virgin. Under the provisions of the Cardiff Improvement Act of 1889, the area of the Borough was extended so as to include the Parish of Roath and that of Llandaff known as Canton.

By Order of the Privy Council, dated 21st October, 1890, the Borough was divided into Wards.

Returning tables, taken from the Census Report of 1901, give the distribution of the population in the Municipal Wards, Civil Parishes and Registration Sub-Districts, as compared with the Census of 1891:—

CENSUS, 1901.

II.—Inhabited Houses and Population enumerated in 1891 and 1901, in the Municipal Borough of Cardiff:—

	Inhabited Houses.		Population.		Increase or Decrease of Population between 1891 and 1901.	
	1891	1901	1891	1901	Increase	Decrease
Municipal Borough of Cardiff	20,476	28,009	128,915	164,420	35,505	—

TABLE II.

Inhabited Houses and Population in Registration Sub-Districts enumerated in 1891 and 1901:—

Registration Sub-Districts.	Area in Statute Acres.	Inhabited Houses.		Enumerated Population.		Increase or Decrease of Population between 1891 and 1901.	
		1891	1901	1891	1901	Increase.	Decrease.
St. John's	481	5,838	9,297	35,294	52,585	17,291	—
St. Mary's	3,832	8,302	8,868	53,324	54,302	978	—
St. David's	2,060	6,536	9,344	39,797	57,438	17,641	—

TABLE IX.
COUNTY BOROUGH OF CARDIFF.

		HOUSES.			POPULATION.		
Wards and Districts.	Inhabited.	Uninhabited.		Building.	Persons.	Males.	Females.
		In Occupation.	Not in Occupation.				
Cardiff	27,337	1,105	1,872	157	164,333	81,605	82,728
St. David's	7,581	121	670	22	43,256	21,215	22,041
St. John's	14,914	149	451	98	61,022	30,132	30,890
St. Mary's	3,120	384	377	23	29,704	13,872	15,832
St. Peter's	4,122	451	374	14	30,351	16,386	13,965
St. Thomas's	2,100	34	94	12	14,188	7,902	6,286
St. Vincent's	1,000	48	374	21	19,727	9,516	10,211
St. James's	3,120	31	210	5	18,522	9,257	9,265
St. George's	1,000	556	217	20	11,286	5,428	5,858
St. Andrew's	3,121	34	217	2	20,584	10,272	10,312
St. David's	2,117	74	167	28	21,124	9,886	11,238
St. John's	2,111	70	175	9	17,121	8,168	8,953
St. Mary's	2,111	51	176	24	14,665	6,801	7,864
St. Peter's	2,111	174	123	2	10,320	5,653	4,667
St. Thomas's	2,111	33	116	34	16,856	8,722	8,134

VITAL STATISTICS.

POPULATION.—The preliminary report on the Census of 1901 was issued on the 1st April, and the figures contained in it are subject to revision. In this report, the population of Cardiff on the 1st April is given as 164,420, including the shipping population. Upon the actual enumeration of the population at each Census in April, the Registrar-General has to make a probable increase which will have taken place in the middle of each succeeding year. These estimates are based on the assumption that the increase is going on at the same rate as it did during the preceding inter-censal period.

This method, as applied to the ten years ending 1901, did not give very accurate results, as the census returns show that the rate of increase, which had taken place in the decennium ending 1901, was not maintained. During this period, there was an increase of the population of 35 per cent., this being a greater increase than in any of the 28 large towns, whilst the census returns show only an increase of 35,505, or 27·5 per cent. during the ten years ending 1901. Consequently, the estimates of population made by the Registrar-General for the latter part of the decennium were considerably above the actual figure. It was not expected that the high rate of increase would be maintained, and the results of the recent census, as expected, that the estimates made during the past four or five years have been

The errors that may arise from the assumption that the same rate of increase continues throughout the decennium become, of course, more apparent in large towns, where the population, owing to the introduction of fresh industries and to other causes, is increasing more rapidly than in small Urban and Rural Districts. The only remedy would seem to be a more frequent census enumeration, as unless this is done there must of necessity be serious inaccuracy in the vital statistics of large towns, especially towards the end of the inter-censal period.

the former, however, in the population of 27·5 per cent. may be regarded as satisfactory and equal to that of other large towns. In the Census returns for 1901, amongst 22 towns containing more than 100,000 inhabitants, two only, namely West Ham and Tottenham, had a higher rate of increase than Cardiff.

The effect of the over-estimate of the population has been to produce in the death-rates and other figures, which in each case were below the real rates, this error being, of course, exaggerated towards the end of the decennium. The extent of this error is shown on Table I. The corrected rates, based on revised estimates of population, which I have made since publication of the Census of 1901. It should be mentioned that in dealing with death-rates in small communities it is the position of one district, as compared with that of another, that is regarded as an index of sanitary improvement. In this respect, therefore, the relative error of the figures will remain practically the same, as similar errors occurred in the estimates of the large towns. The population of the Borough of Cardiff, brought up in the usual manner to the date of the year 1901, is estimated by the Registrar-General as 165,303, and the figures generally given in this report are calculated upon this estimate as rates per 1,000 of population.

The statistical tables in the appendix, forms for which are supplied by the Local Sanitary Board, are the same as those issued last year, but differ considerably from those formerly used. The tables have, at the suggestion of the Incorporated Society of Medical Officers of Health, been substituted for Tables A and B, previously in use. Table I. supplies figures for the five previous years for the purpose of comparison. Table II. gives the births and deaths distributed among the localities to which they belong and the corresponding figures for previous years. An indication is thus afforded of the effect of the varying conditions of the year upon the mortality, either from all causes or from some particular disease or group of diseases. Table III. provides for the number of notified cases of infectious disease during the year, classified according to ages of patients and localities, and also the number of cases removed to hospital from each locality. Table IV. gives in a condensed form the particulars given in the more extended table of the causes of death during the year according to sex and age. Where necessary, and as far as possible, the tables of vital statistics in this Report relating to the years intermediate between 1891 and 1901 have been revised in the light of the numbers returned in the last Census. This has entailed a considerable amount of re-calculation, and is the subject of the issue of the Report.

TABLE IV.—Births, Deaths, and Natural Increase of Population for Fifty-seven

Year.	Population.	Births.	Deaths.	Excess of Deaths over Births.	Excess of Births over Deaths.
1843	13,885	320	324	4	...
1844	14,212	381	321	...	60
1845	15,039	331	484	153	...
1846	15,866	428	579	151	...
1847	16,693	466	864	395	...
1848	17,520	504	485	...	19
1849	18,354	575	585	...	50
1850	19,724	696	620	...	76
1851	21,094	865	644	...	221
1852	22,464	950	925	...	25
1853	23,834	1,079	641	...	438
1854	25,204	1,227	772	...	455
1855	26,574	1,367	883	...	484
1856	27,944	1,356	753	...	603
1857	29,314	1,336	826	...	510
1858	30,684	1,346	662	...	584
1859	32,054	1,223	837	...	386
1860	32,804	1,267	695	...	373
1861	33,552	1,302	862	...	440
1862	34,300	1,369	932	...	467
1863	35,048	1,382	867	...	515
1864	35,796	1,331	882	...	449
1865	36,544	1,397	873	...	524
1866	37,292	1,387	843	...	544
1867	38,640	1,414	1,005	...	409
1868	38,788	1,406	903	...	503
1869	39,356	1,391	891	...	500
1870	40,284	1,358	916	...	442
1871	41,032	1,430	995	...	485
1872	41,780	1,550	885	...	665
1873	69,850	2,716	1,547	...	1,169
1874	72,438	2,707	1,455	...	1,252
1875	75,026	2,772	1,475	...	1,297
1876	77,614	2,795	1,468	...	1,327
1877	80,202	2,969	1,428	...	1,541
1878	82,790	2,893	1,634	...	1,259
1879	85,378	3,145	1,556	...	1,589
1880	88,603	3,399	1,724	...	1,675
1881	91,204	3,526	1,807	...	1,719
1882	93,468	3,920	2,250	...	1,670
1883	97,034	4,164	2,487	...	1,683
1884	100,736	4,270	2,269	...	2,001
1885	104,580	4,277	2,280	...	1,997
1886	108,570	4,409	2,212	...	2,197
1887	112,712	4,361	2,190	...	2,172
1888	117,012	4,600	2,469	...	2,131
1889	130,283	4,739	2,873	...	1,866
1890	132,895	4,776	2,560	...	2,216
1891	136,168	5,110	2,794	...	2,316
1892	139,519	5,100	2,415	...	2,685
1893	142,958	5,321	2,840	...	2,481
1894	146,479	5,591	2,795	...	2,796
1895	150,087	5,279	2,534	...	2,745
1896	153,783	5,520	2,627	...	2,893
1897	157,414	5,309	2,858	...	2,451
1898	161,452	5,798	2,667	...	3,131
1899	165,308	5,206	2,596	...	2,610

Canton and North taken into the Borough.

Populations since 1892 have been revised in accordance with Census Returns, 1901.

TABLE V.
COUNTY BOROUGH OF CARDIFF.

* DENSITY OF POPULATION.

Year.				Persons per Acre.
1891	...	...	...	20·4
1892	...	...	...	20·8
1893	...	...	...	21·3
1894	...	...	...	21·8
1895	...	...	...	22·4
1896	...	...	...	22·9
1897	...	...	...	23·5
1898	...	...	...	24·1
1899	...	...	...	24·7
1900	...	...	...	25·3
1901	...	...	...	25·9

* Calculated on the basis of the 1901 population and an area of 17·5 acres.

DEATH-RATE.—Death-rates furnish sufficiently accurate tests of the healthiness of districts; at any rate no more trustworthy test is available for comparing the progress of one town with another, and they may be dealt with for this purpose, and certain possible facilities are kept in view. Very little value can be attached to death-rates for short periods, owing to the liability to fluctuations from accidental causes and to the smallness of the numbers upon which statistics for such periods are based. A reference to the death-rate at various age groups shows a very considerable difference in the rates in these groups. It is of little use, therefore, comparing the vital statistics of districts unless the proportion of the total population living at different age-groups differs widely. The same applies to sex distribution, as at nearly all ages the death-rate of males is higher than that of females. In comparing vital statistics of different districts, the age and sex distribution of the population is of the utmost importance in determining the relative value of the statistics. Unusually high or low death-rates may be due to incorrect estimates of population, unusually high or low death-rates may in some cases be due to some peculiarity in the age or sex distribution of the population. The Registrar-General, in his Annual Summary, issues a table in which the death-rates in the various towns are corrected for age and sex distribution, and to which an explanatory note is attached.

With respect to the Table, he points out that "although it is doubtless true that the actual death-rates of towns or other areas cannot safely be used for accurate comparison between such towns or areas in respect of healthiness without further correction, yet they serve as a very valuable approximate indication, for if the Column 3 be compared with Column 4, it will be seen that, whether the towns be arranged according to their recorded or according to their corrected death-rates, the order will scarcely be changed. The corrections simply alters the amount of difference between the towns, leaving the position in which they stand to each other but slightly changed."

Table 1. Mortality in the 33 Towns of the County of Glamorgan, 1901

No. of Towns	Standard Death-rate	Factor for correction for Sex and Age distribution †	Recorded Death-rate, 1901	Corrected Death-rate, 1901 ‡	Comparative Mortality Figure, 1901 §
1. Wales ...	19.15	1.0000	16.90	16.90	1,000
2. Glamorgan ...	19.15	1.0000	16.90	16.90	1,000
3. Cardiff ...	17.72	1.0806	18.59	20.09	1,189
4. Swansea ...	18.37	1.0424	12.86	13.41	793
5. Newport ...	18.45	1.0379	13.65	16.55	979
6. Merthyr Tydfil ...	18.94	1.0110	16.53	16.71	989
7. Pontypridd ...	17.36	1.1031	15.18	16.75	991
8. Rhondda ...	17.64	1.0855	15.88	17.24	1,020
9. Tonypandy ...	19.70	0.9720	17.89	17.39	1,029
10. Aberdare ...	17.16	1.1159	15.76	17.59	1,041
11. Barry ...	18.30	1.0464	16.89	17.67	1,046
12. Glynneath ...	19.09	0.9579	18.71	17.92	1,049
13. Llanidloes ...	17.28	1.1682	16.39	18.16	1,075
14. Llanelli ...	18.73	1.0224	17.85	18.25	1,080
15. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
16. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
17. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
18. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
19. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
20. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
21. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
22. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
23. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
24. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
25. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
26. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
27. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
28. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
29. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
30. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
31. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
32. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080
33. Llantrisant ...	18.73	1.0224	17.85	18.25	1,080

† The standard death-rate signifies the death-rate at all ages calculated on the hypothesis that the rates at each of the 33 towns were the same as in England and Wales during the ten years 1881-90, the death-rate in England and Wales during that period having been 19.15 per 1,000.

‡ The factor for correction $\left\{ = \frac{19.15}{\text{Standard death-rate}} \right\}$ is the figure by which the recorded death-rate should be multiplied to correct for variations of sex and age distribution.

§ The comparative mortality figure is the recorded death-rate multiplied by the factor for correction.

¶ The mortality figure represents the corrected death-rate in each town compared with the recorded death-rate in England and Wales in 1901 taken at 1,000.

TABLE VII.

MARRIAGES.—The number of Marriages registered during the year 1901 was 1,641, at a rate of 19·8 persons married per 1,000 persons living.

A return of the number of Marriages in the Borough of Cardiff, together with the rate per 1,000 of the population, is given below:—

Year.	Number of Marriages.	Rate per 1,000 persons living.
1891	1,651	25·3
1892	1,526	22·9
1893	1,447	21·2
1894	1,480	21·2
1895	1,271	17·7
1896	1,721	23·4
1897	1,637	22·4
1898	1,525	19·8
1899	1,719	21·8
1900	1,706	21·1
1901	1,641	19·8

During the year 1901 the Births registered in the Borough were 5,206; of these 2,588 were males and 2,618 were females.

The number corresponded to an annual birth-rate of 31·4 per 1,000 persons living, as compared with 28·5, the birth-rate in England and Wales, and with 29·4, the birth-rate in the large towns for the same period.

Table IX. shows the birth-rate in Cardiff, as compared with that of the large towns for the past ten years, from which it will be seen that the birth-rate in Cardiff was in each year considerably higher than the average rate in these towns.

The average annual birth-rate in Cardiff during the ten years 1891—1900 was 23·7 per 1,000 persons living.

TABLE VIII. shows the number of legitimate and illegitimate births, male and female, and the number of deaths amongst children under one year of age in each Ward and the Union Workhouse during the year 1901:—

WARDS.			Legitimate.		Illegitimate.		Total.		Total.	Deaths under One Year.
			M.	F.	M.	F.	M.	F.		
Central	Ward	...	140	123	2	4	142	127	269	33
St. David	..	...	135	137	2	2	137	139	276	50
St. John	..	...	342	297	2	2	344	299	643	81
St. Mary	..	...	300	289	4	3	304	292	596	77
St. Peter	..	...	181	200	3	...	184	200	384	66
St. Thomas	..	...	142	140	1	3	143	143	286	67
St. Vincent	..	...	401	402	4	7	405	409	814	109
St. James	..	...	213	236	2	2	215	238	453	58
St. George	..	...	384	412	4	2	388	414	802	107
St. Andrew	..	...	294	322	1	1	295	323	618	91
Workhouse	..	...	9	10	23	24	31	34	65	11
TOTAL			2,540	2,568	48	50	2,588	2,618	5,206	775

TABLE IX.—Annual Birth-rate in Cardiff compared with that in the large towns of Wales, years ending 1901.—

Towns.	Annual Birth-rate per 1,000 living.										
	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
Cardiff	28.1	28.4	28.7	29.0	29.3	29.6	29.9	30.2	30.5	30.8	31.1
Swansea	27.4	27.7	28.0	28.3	28.6	28.9	29.2	29.5	29.8	30.1	30.4
Merthyr Tydfil	26.7	27.0	27.3	27.6	27.9	28.2	28.5	28.8	29.1	29.4	29.7
Neath	26.0	26.3	26.6	26.9	27.2	27.5	27.8	28.1	28.4	28.7	29.0
Barry	25.3	25.6	25.9	26.2	26.5	26.8	27.1	27.4	27.7	28.0	28.3
Port Talbot	24.6	24.9	25.2	25.5	25.8	26.1	26.4	26.7	27.0	27.3	27.6
Wentafel	23.9	24.2	24.5	24.8	25.1	25.4	25.7	26.0	26.3	26.6	26.9
Ystradgynlais	23.2	23.5	23.8	24.1	24.4	24.7	25.0	25.3	25.6	25.9	26.2
Abertawe	22.5	22.8	23.1	23.4	23.7	24.0	24.3	24.6	24.9	25.2	25.5
Ammanford	21.8	22.1	22.4	22.7	23.0	23.3	23.6	23.9	24.2	24.5	24.8
Ystradgynlais	21.1	21.4	21.7	22.0	22.3	22.6	22.9	23.2	23.5	23.8	24.1
Ystradgynlais	20.4	20.7	21.0	21.3	21.6	21.9	22.2	22.5	22.8	23.1	23.4
Ystradgynlais	19.7	20.0	20.3	20.6	20.9	21.2	21.5	21.8	22.1	22.4	22.7
Ystradgynlais	19.0	19.3	19.6	19.9	20.2	20.5	20.8	21.1	21.4	21.7	22.0
Ystradgynlais	18.3	18.6	18.9	19.2	19.5	19.8	20.1	20.4	20.7	21.0	21.3
Ystradgynlais	17.6	17.9	18.2	18.5	18.8	19.1	19.4	19.7	20.0	20.3	20.6
Ystradgynlais	16.9	17.2	17.5	17.8	18.1	18.4	18.7	19.0	19.3	19.6	19.9
Ystradgynlais	16.2	16.5	16.8	17.1	17.4	17.7	18.0	18.3	18.6	18.9	19.2
Ystradgynlais	15.5	15.8	16.1	16.4	16.7	17.0	17.3	17.6	17.9	18.2	18.5
Ystradgynlais	14.8	15.1	15.4	15.7	16.0	16.3	16.6	16.9	17.2	17.5	17.8
Ystradgynlais	14.1	14.4	14.7	15.0	15.3	15.6	15.9	16.2	16.5	16.8	17.1
Ystradgynlais	13.4	13.7	14.0	14.3	14.6	14.9	15.2	15.5	15.8	16.1	16.4
Ystradgynlais	12.7	13.0	13.3	13.6	13.9	14.2	14.5	14.8	15.1	15.4	15.7
Ystradgynlais	12.0	12.3	12.6	12.9	13.2	13.5	13.8	14.1	14.4	14.7	15.0
Ystradgynlais	11.3	11.6	11.9	12.2	12.5	12.8	13.1	13.4	13.7	14.0	14.3
Ystradgynlais	10.6	10.9	11.2	11.5	11.8	12.1	12.4	12.7	13.0	13.3	13.6
Ystradgynlais	9.9	10.2	10.5	10.8	11.1	11.4	11.7	12.0	12.3	12.6	12.9
Ystradgynlais	9.2	9.5	9.8	10.1	10.4	10.7	11.0	11.3	11.6	11.9	12.2
Ystradgynlais	8.5	8.8	9.1	9.4	9.7	10.0	10.3	10.6	10.9	11.2	11.5
Ystradgynlais	7.8	8.1	8.4	8.7	9.0	9.3	9.6	9.9	10.2	10.5	10.8
Ystradgynlais	7.1	7.4	7.7	8.0	8.3	8.6	8.9	9.2	9.5	9.8	10.1
Ystradgynlais	6.4	6.7	7.0	7.3	7.6	7.9	8.2	8.5	8.8	9.1	9.4
Ystradgynlais	5.7	6.0	6.3	6.6	6.9	7.2	7.5	7.8	8.1	8.4	8.7
Ystradgynlais	5.0	5.3	5.6	5.9	6.2	6.5	6.8	7.1	7.4	7.7	8.0
Ystradgynlais	4.3	4.6	4.9	5.2	5.5	5.8	6.1	6.4	6.7	7.0	7.3
Ystradgynlais	3.6	3.9	4.2	4.5	4.8	5.1	5.4	5.7	6.0	6.3	6.6
Ystradgynlais	2.9	3.2	3.5	3.8	4.1	4.4	4.7	5.0	5.3	5.6	5.9
Ystradgynlais	2.2	2.5	2.8	3.1	3.4	3.7	4.0	4.3	4.6	4.9	5.2
Ystradgynlais	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5
Ystradgynlais	0.8	1.1	1.4	1.7	2.0	2.3	2.6	2.9	3.2	3.5	3.8
Ystradgynlais	0.1	0.4	0.7	1.0	1.3	1.6	1.9	2.2	2.5	2.8	3.1
Ystradgynlais	-0.6	-0.3	0.0	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4
Ystradgynlais	-1.3	-1.0	-0.7	-0.4	-0.1	0.2	0.5	0.8	1.1	1.4	1.7
Ystradgynlais	-2.0	-1.7	-1.4	-1.1	-0.8	-0.5	-0.2	0.1	0.4	0.7	1.0
Ystradgynlais	-2.7	-2.4	-2.1	-1.8	-1.5	-1.2	-0.9	-0.6	-0.3	0.0	0.3
Ystradgynlais	-3.4	-3.1	-2.8	-2.5	-2.2	-1.9	-1.6	-1.3	-1.0	-0.7	-0.4
Ystradgynlais	-4.1	-3.8	-3.5	-3.2	-2.9	-2.6	-2.3	-2.0	-1.7	-1.4	-1.1
Ystradgynlais	-4.8	-4.5	-4.2	-3.9	-3.6	-3.3	-3.0	-2.7	-2.4	-2.1	-1.8
Ystradgynlais	-5.5	-5.2	-4.9	-4.6	-4.3	-4.0	-3.7	-3.4	-3.1	-2.8	-2.5
Ystradgynlais	-6.2	-5.9	-5.6	-5.3	-5.0	-4.7	-4.4	-4.1	-3.8	-3.5	-3.2
Ystradgynlais	-6.9	-6.6	-6.3	-6.0	-5.7	-5.4	-5.1	-4.8	-4.5	-4.2	-3.9
Ystradgynlais	-7.6	-7.3	-7.0	-6.7	-6.4	-6.1	-5.8	-5.5	-5.2	-4.9	-4.6
Ystradgynlais	-8.3	-8.0	-7.7	-7.4	-7.1	-6.8	-6.5	-6.2	-5.9	-5.6	-5.3
Ystradgynlais	-9.0	-8.7	-8.4	-8.1	-7.8	-7.5	-7.2	-6.9	-6.6	-6.3	-6.0
Ystradgynlais	-9.7	-9.4	-9.1	-8.8	-8.5	-8.2	-7.9	-7.6	-7.3	-7.0	-6.7
Ystradgynlais	-10.4	-10.1	-9.8	-9.5	-9.2	-8.9	-8.6	-8.3	-8.0	-7.7	-7.4
Ystradgynlais	-11.1	-10.8	-10.5	-10.2	-9.9	-9.6	-9.3	-9.0	-8.7	-8.4	-8.1
Ystradgynlais	-11.8	-11.5	-11.2	-10.9	-10.6	-10.3	-10.0	-9.7	-9.4	-9.1	-8.8
Ystradgynlais	-12.5	-12.2	-11.9	-11.6	-11.3	-11.0	-10.7	-10.4	-10.1	-9.8	-9.5
Ystradgynlais	-13.2	-12.9	-12.6	-12.3	-12.0	-11.7	-11.4	-11.1	-10.8	-10.5	-10.2
Ystradgynlais	-13.9	-13.6	-13.3	-13.0	-12.7	-12.4	-12.1	-11.8	-11.5	-11.2	-10.9
Ystradgynlais	-14.6	-14.3	-14.0	-13.7	-13.4	-13.1	-12.8	-12.5	-12.2	-11.9	-11.6
Ystradgynlais	-15.3	-15.0	-14.7	-14.4	-14.1	-13.8	-13.5	-13.2	-12.9	-12.6	-12.3
Ystradgynlais	-16.0	-15.7	-15.4	-15.1	-14.8	-14.5	-14.2	-13.9	-13.6	-13.3	-13.0
Ystradgynlais	-16.7	-16.4	-16.1	-15.8	-15.5	-15.2	-14.9	-14.6	-14.3	-14.0	-13.7
Ystradgynlais	-17.4	-17.1	-16.8	-16.5	-16.2	-15.9	-15.6	-15.3	-15.0	-14.7	-14.4
Ystradgynlais	-18.1	-17.8	-17.5	-17.2	-16.9	-16.6	-16.3	-16.0	-15.7	-15.4	-15.1
Ystradgynlais	-18.8	-18.5	-18.2	-17.9	-17.6	-17.3	-17.0	-16.7	-16.4	-16.1	-15.8
Ystradgynlais	-19.5	-19.2	-18.9	-18.6	-18.3	-18.0	-17.7	-17.4	-17.1	-16.8	-16.5
Ystradgynlais	-20.2	-19.9	-19.6	-19.3	-19.0	-18.7	-18.4	-18.1	-17.8	-17.5	-17.2
Ystradgynlais	-20.9	-20.6	-20.3	-20.0	-19.7	-19.4	-19.1	-18.8	-18.5	-18.2	-17.9
Ystradgynlais	-21.6	-21.3	-21.0	-20.7	-20.4	-20.1	-19.8	-19.5	-19.2	-18.9	-18.6
Ystradgynlais	-22.3	-22.0	-21.7	-21.4	-21.1	-20.8	-20.5	-20.2	-19.9	-19.6	-19.3
Ystradgynlais	-23.0	-22.7	-22.4	-22.1	-21.8	-21.5	-21.2	-20.9	-20.6	-20.3	-20.0
Ystradgynlais	-23.7	-23.4	-23.1	-22.8	-22.5	-22.2	-21.9	-21.6	-21.3	-21.0	-20.7
Ystradgynlais	-24.4	-24.1	-23.8	-23.5	-23.2	-22.9	-22.6	-22.3	-22.0	-21.7	-21.4
Ystradgynlais	-25.1	-24.8	-24.5	-24.2	-23.9	-23.6	-23.3	-23.0	-22.7	-22.4	-22.1
Ystradgynlais	-25.8	-25.5	-25.2	-24.9	-24.6	-24.3	-24.0	-23.7	-23.4	-23.1	-22.8
Ystradgynlais	-26.5	-26.2	-25.9	-25.6	-25.3	-25.0	-24.7	-24.4	-24.1	-23.8	-23.5
Ystradgynlais	-27.2	-26.9	-26.6	-26.3	-26.0	-25.7	-25.4	-25.1	-24.8	-24.5	-24.2
Ystradgynlais	-27.9	-27.6	-27.3	-27.0	-26.7	-26.4	-26.1	-25.8	-25.5	-25.2	-24.9
Ystradgynlais	-28.6	-28.3	-28.0	-27.7	-27.4	-27.1	-26.8	-26.5	-26.2	-25.9	-25.6
Ystradgynlais	-29.3	-29.0	-28.7	-28.4	-28.1	-27.8	-27.5	-27.2	-26.9	-26.6	-26.3
Ystradgynlais	-30.0	-29.7	-29.4	-29.1	-28.8	-28.5	-28.2	-27.9	-27.6	-27.3	-27.0
Ystradgynlais	-30.7	-30.4	-30.1	-29.8	-29.5	-29.2	-28.9	-28.6	-28.3	-28.0	-27.7
Ystradgynlais	-31.4	-31.1	-30.8	-30.5	-30.2	-29.9	-29.6	-29.3	-29.0	-28.7	-28.4
Ystradgynlais	-32.1	-31.8	-31.5	-31.2	-30.9	-30.6	-30.3	-30.0	-29.7	-29.4	-29.1
Ystradgynlais	-32.8	-32.5	-32.2	-31.9	-31.6	-31.3	-31.0	-30.7	-30.4	-30.1	-29.8
Ystradgynlais	-33.5	-33.2	-32.9	-32.6	-32.3	-32.0	-31.7	-31.4	-31.1	-30.8	-30.5
Ystradgynlais	-34.2	-33.9	-33.6	-33.3	-33.0	-32.7	-32.4	-32.1	-31.8	-31.5	-31.2
Ystradgynlais	-34.9	-34.6	-34.3	-34.0	-33.7	-33.4	-33.1	-32.8	-32.5	-32.2	-31.9
Ystradgynlais	-35.6	-35.3	-35.0	-34.7	-34.4	-34.1	-33.8	-33.5	-33.2	-32.9	-32.6
Ystradgynlais	-36.3	-36.0	-35.7	-35.4	-35.1	-34.8	-34.5	-34.2	-33.9	-33.6	-33.3
Ystradgynlais	-37.0	-36.7	-36.4	-36.1	-35.8	-35.5	-35.2	-34.9	-34.6	-34.3	-34.0
Ystradgynlais	-37.7	-37.4	-37.1	-36.8	-36.5	-36.2	-35.9	-35.6	-35.3	-35.0	-34.7
Ystradgynlais	-38.4	-38.1	-37.8	-37.5	-37.2	-36.9	-36.6	-36.3	-36.0	-35.7	-35.4
Ystradgynlais	-39.1	-38.8	-38.5	-38.2	-37.9	-37.6	-37.3	-37.0	-36.7	-36.4	-36.1
Ystradgynlais	-39.8	-39.5	-39.2	-38.9	-38.6	-38.3	-38.0	-37.7	-37.4	-37.1	-36.8
Ystradgynlais	-40.5	-40.2	-39.9	-39.6	-39.3	-39.0	-38.7	-38.4	-38.1	-37.8	-37.5
Ystradgynlais	-41.2	-40.9	-40.6	-40.3	-40.0	-39.7	-39.4	-39.1	-38.8	-38.5	-38.2
Ystradgynlais	-41.9	-41.6	-41.3	-41.0	-40.7	-40.4	-40.1	-39.8	-39.5	-39.2	-38.9
Ystradgynlais	-42.6	-42.3	-42.0	-41.7	-41.4	-41.1	-40.8	-40.5	-40.2	-39.9	-39.6
Ystradgynlais	-43.3	-43.0	-42.7	-42.4	-42.1	-41.8	-41.5	-41.2	-40.9	-40.6	-40.3
Ystradgynlais	-44.0	-43.7	-43.4	-43.1	-42.8	-42.5	-42.2	-41.9	-41.6	-41.3	-41.0
Ystradgynlais	-44.7	-44.4	-44.1	-43.8	-43.5	-43.2	-42.9	-42.6	-42.3	-42.0	-41.7
Ystradgynlais	-45.4	-45.1	-44.8	-44.5	-44.2	-43.9	-43.6	-43.3	-43.0	-42.7	-42.4
Ystradgynlais	-46.1	-45.8	-45.5	-45.2	-44.9	-44.6	-44.3	-44.0	-43.7	-43.4	-43.1
Ystradgynlais	-46.8	-46.5	-46.2	-45.9	-45.6						

Year 1901.	Death-rate from all causes.
England and Wales ...	16.9 per 1,000 persons living.
Thirty-three great Towns ...	18.6
Sixty-seven other large Towns ..	17.1
Country	16.0

According to the returns of the Registrar-General, the death-rates in the large towns were 18.8 per 1,000 in Croydon, 15.1 in Derby, 15.7 in Cardiff, 15.8 in Leicester, and 15.9 in Exeter, 21.9 in Preston, 22.1 in Manchester, and 22.3 in Liverpool.

TABLE K.—Annual Death-rate per 1,000 of the 33 large Towns in England and Wales, 10 years 1892-1901 inclusive:—

		Annual Death-rate per 1,000 living.									
33 Large Towns.		1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
Birmingham	...	20.6	21.3	17.8	19.8	18.6	18.2	18.7	19.8	18.8	17.9
Manchester	...	18.6	18.7	16.2	17.9	18.1	15.7	15.4	16.7	15.9	18.0
London	...	15.8	16.4	13.2	13.5	14.2	13.1	13.2	15.0	14.3	12.9
Leeds	...	19.2	18.1	16.4	18.9	17.7	15.4	16.3	19.0	17.8	16.5
Sheffield	...	18.5	18.2	15.2	17.8	17.0	16.9	16.3	19.7	17.7	17.9
Bradford	...	18.8	21.2	18.7	20.1	19.3	19.0	19.3	21.7	20.8	17.9
Nottingham	...	19.5	18.7	17.3	18.1	16.3	17.2	17.2	18.2	16.7	16.0
Southampton	...	20.4	19.3	17.0	18.3	16.8	15.8	18.7	18.1	17.1	18.6
Cardiff	...	21.5	22.3	20.7	24.4	20.9	22.5	21.3	21.8	22.3	16.9
Derby	...	20.4	22.2	18.0	22.3	20.8	21.6	20.7	20.8	21.7	20.5
Exeter	...	20.0	19.3	18.7	19.3	17.4	18.8	19.0	17.3	17.7	18.7
Gloucester	...	18.2	20.0	14.7	17.2	16.7	17.7	16.9	17.7	17.1	15.9
Leicester	...	18.7	18.3	17.2	19.0	17.5	18.8	17.7	20.0	19.7	18.5
Liverpool	...	19.3	18.2	15.0	16.7	15.7	16.4	16.8	16.9	17.5	15.2
Newcastle	...	19.6	20.5	18.1	19.5	19.2	18.3	17.7	19.2	16.8	18.7
Oldham	...	24.7	27.3	23.8	28.8	22.7	24.4	24.9	26.4	25.7	22.3
Preston	...	22.8	24.1	18.8	24.0	20.7	22.0	19.4	19.9	19.7	18.2
Sheffield	...	23.8	24.9	20.4	25.2	22.3	23.1	21.9	24.6	24.1	22.1
Southampton	...	24.6	24.1	21.0	25.6	22.3	23.9	22.7	23.8	25.1	21.7
Stoke-on-Trent	...	22.0	21.0	18.6	22.0	20.3	19.2	17.6	20.5	19.3	19.6
Tottenham	...	20.4	21.9	18.7	23.4	17.5	19.3	16.3	19.6	16.9	19.0
Wolverhampton	...	21.7	23.3	17.9	24.3	17.9	19.5	18.4	19.1	20.5	19.5
Worcester	...	24.1	26.4	20.8	23.9	20.8	24.4	19.3	22.8	24.0	21.0
Wolverhampton	...	18.1	17.2	15.8	16.9	16.5	16.4	15.9	16.2	16.8	16.7
Wolverhampton	...	19.5	17.9	16.5	19.3	17.3	16.5	17.9	18.3	18.1	16.4
Wolverhampton	...	18.0	21.0	17.0	19.9	16.5	17.5	17.6	18.4	16.1	16.8
Wolverhampton	...	19.8	22.3	17.9	20.5	18.8	19.9	19.2	19.1	20.9	19.3
Wolverhampton	...	20.8	22.3	17.8	20.5	19.3	21.2	20.2	22.2	22.3	20.4
Wolverhampton	...	19.6	21.8	17.4	20.8	18.9	18.6	18.1	19.3	19.7	18.6
Wolverhampton	...	20.9	22.5	20.8	21.8	19.8	19.7	22.6	21.5	21.7	21.4
Wolverhampton	...	18.9	19.3	17.7	19.6	19.1	18.3	20.7	18.8	19.3	21.6
Wolverhampton	...	19.7	21.6	18.3	20.5	18.7	19.1	21.3	19.6	19.7	21.9
Wolverhampton	...	19.2	20.4	17.3	19.9	18.0	16.3	17.0	18.1	16.1	15.7
Large Towns	...	20.7	21.3	18.1	20.7	18.9	19.1	19.0	20.2	19.5	18.6

... the death-rates from the several diseases being compared with the averages for 1901 and 1891-1900:—

						Death Rates per 1,000 Persons Living.	
						1901.	1891-1900.
...	...	...	...	...	...	1.71	1.64
...	...	...	...	...	...	1.26	1.38
...	...	...	...	...	...	1.09	1.09
...	...	...	...	...	...	1.05	1.49
...	...	...	...	...	...	0.52	0.47
...	...	...	...	...	...	0.01	0.41
...	...	...	...	...	...	0.47	0.45
...	...	...	...	...	...	0.45	0.79
...	...	...	...	...	...	0.17	0.15
...	...	...	...	...	...	0.45	0.63

On examining the Statistics in the several Registration Sub-districts within the Borough it is seen that the general death-rate in each of these localities was respectively:—East Cardiff, 12.4; West Cardiff, 13.2; Central Cardiff, 15.0 per 1,000 persons living in each sub-district including in each case the deaths in Public Institutions. In the 10 Municipal Ward death-rates varied from 11.0 per 1,000 in the Riverside Ward, 11.8 in the Cathays Ward, 12.9 in the North Ward to 16.7 in the South Ward, and 17.3 in the Central Ward.

The diseases of the respiratory organs (*i.e.*) chiefly Pneumonia and Bronchitis, caused in 1901 361 deaths, equal to an annual death-rate of 3.2 per 1,000, the highest being 4.1 in the Central Ward, and the lowest 2.1 in the Riverside Ward.

Including in the case of the entire Borough the deaths in Public Institutions—of the kind from these causes 26 occurred in the Union Workhouse, and 6 in other Institutions, but not accounted for in the rates for the several Wards.

INFANT MORTALITY.—The rate of Infant Mortality as measured by the proportion of infants under one year of age to 1,000 births registered was 148, as compared with 161 in 1900, and with 161 the average in 10 years, 1891-1900. In the large towns the infant mortality in 1901 corresponded to 168. Deaths of infants under one year of age in 1901, ranging from 127 in Halifax, 131 in Bristol, 132 in Huddersfield, and 141 in Manchester, to 204 in Sheffield, 216 in Salford, 216 in Preston, and 226 in Burnley.

In the Registration Sub-districts the infant mortality ranged from 135 in East Cardiff, 147 in West Cardiff, to 162 in Central Cardiff.

The rates in the sub-districts do not include the infants who died in the Cardiff Union Workhouse amounting to a proportion of 169 under one year of age to 1,000 births in that Union during the year.

The chief causes of death amongst infants were as follows:—

CAUSES OF DEATH.						Number of Deaths under 1 Year of Age.	
...	...	...	...	...	...	100	
...	...	...	...	...	...	84	
...	...	...	...	...	...	69	
...	...	...	...	...	...	68	
...	...	...	...	...	...	78	
...	...	...	...	...	...	42	

The following table shows the rate of infant mortality which has prevailed in the large towns in past years, from which it will be seen that the rate of infant mortality in Cardiff is remarkably low. As mentioned in previous reports the rate of infant mortality expressed in figures indicated is a valuable test of the sanitary condition of a district, and is not liable to error as a calculation based on an uncertain estimate of the population. From the foregoing it will be noticed that the diseases which proved most fatal to infants were of a preventable nature, and were probably connected with improper feeding, exposure to cold, or want of cleanliness.

The infant mortality throughout the country for the year, 1901, was as follows:—

	Deaths under 1 Year to 1,000 Births Registered.			
England and Wales	151
23 Great Towns	163
17 other Large Towns	163
Cardiff	148

The influence of weather and season upon the mortality in the district is shewn in the following table for each quarter of the year. Of the 141 deaths under one year of age from Bronchitis and Pneumonia during the year 1901, or 77 per cent., occurred in the first and fourth quarter of the year. Of the 141 deaths at that age from Diarrhoea and Enteritis 61 occurred in the third or fourth quarter of the year.

			Deaths under one year to 1,000 Births registered.									
Large Towns.			1892	1893	1894	1895	1896	1897	1898	1899	1900	1901
...	...	...	155	164	143	166	161	158	167	167	160	149
...	...	...	153	170	138	168	135	171	170	197	189	171
...	...	...	123	155	121	134	150	134	150	154	132	141
...	...	...	151	169	138	164	135	142	181	173	166	161
...	...	...	152	164	131	175	154	168	156	197	155	163
...	...	...	137	169	169	178	178	183	170	190	175	159
...	...	...	147	141	150	143	142	148	164	158	133	131
...	...	...	175	170	163	178	161	139	184	166	175	171
...	...	...	172	208	166	218	184	217	200	184	206	168
...	...	...	166	198	163	193	197	214	191	191	199	187
...	...	...	182	195	164	190	164	196	192	179	178	183
...	...	...	193	220	162	203	187	205	191	195	175	175
...	...	...	167	170	174	190	168	205	178	210	196	193
...	...	...	173	156	123	161	151	167	169	162	174	154
...	...	...	163	196	143	174	177	162	186	186	160	181
...	...	...	131	211	179	210	173	200	184	198	186	188
...	...	...	180	199	162	212	163	186	168	181	171	172
...	...	...	179	203	160	203	176	194	197	206	189	199
...	...	...	185	210	174	231	199	220	212	209	207	204
...	...	...	177	187	161	190	184	183	175	198	172	173
...	...	...	192	223	179	242	170	219	195	269	205	226
...	...	...	193	241	169	236	171	207	203	189	220	193
...	...	...	216	239	217	246	203	263	225	255	236	216
...	...	...	159	141	160	153	163	130	133	152	132	132
...	...	...	166	173	135	153	149	139	163	159	132	127
...	...	...	155	197	145	203	143	178	185	181	141	168
...	...	...	169	206	155	191	169	191	182	171	183	188
...	...	...	171	191	157	197	173	197	195	194	200	201
...	...	...	196	206	142	205	173	178	132	175	183	175
...	...	...	157	188	167	139	158	163	202	175	199	182
...	...	...	154	170	152	186	172	173	203	177	169	197
...	...	...	151	174	157	183	165	177	190	183	179	178
...	...	...	163	160	133	179	165	150	150	164	151	150
...	...	...	164	181	152	182	167	176	178	181	172	168

The subjoined table shows the number of deaths from each of these diseases during the year 1901:—

					No. of Deaths.
Scarlet Fever	...	...	...	...	1
Diphtheria	...	...	...	...	2
Whooping Cough	...	...	...	...	86
Membranous Croup	...	...	...	...	78
Epidemic Fever	...	...	...	...	11
Diarrhoea	...	...	...	...	76

Deaths from zymotic diseases were equivalent to an annual death-rate of 1·70 per 1,000 of the population, as compared with 2·06, the rate in the year 1900.

For the country the zymotic death-rate for the year 1901 was as follows:—

					Death-rate from chief zymotic diseases.
England and Wales	...	...	...	...	1·05 per 1,000 persons living
Urban Towns	...	...	...	...	2·38 „ „
Rural and Large Towns	...	...	...	...	2·24 „ „
Country	...	...	...	...	1·70 „ „

Deaths from the zymotic diseases during the year under consideration in the various towns were 1·38 per 1,000 in Walsingham, 1·40 in Halifax, 1·52 in Croydon, and 1·70 in London, as compared with 2·70 in Sunderland, 4·10 in Sheffield, 4·11 in West Ham, and 4·28 in Manchester.

The zymotic death-rate varied from 1·1 in the East Registration Sub-district, to 1·6 in the Central, and 1·6 in the West Sub-district.

The total incidence of infectious disease, as shown by the number of notifications during the year, was as follows:—West Sub-district, 884; East Sub-district, 848; Central Sub-district, 1,002, giving a proportional incidence of 15·2 per 1,000 of the population in the West Sub-district, 15·8 in the East Sub-district, and 11·3 in the Central Sub-district. Of the diseases notified scarlet fever showed the highest number. Of the 1,902 notifications of this disease 597 occurred in the East, 425 in the West, and 880 in the Central Sub-district.

TABLE XII.—Gives the population of each year, the annual deaths from all causes and from chief zymotic diseases, and the death-rates from 1852 to 1901 inclusive, in the Borough of Cardiff:—

Year.	Population.	All Causes.			Seven Chief Zymotic Diseases.		
		No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.	No. of Deaths.	Death Rates per 1,000.	Mean of 10 years.
1852	10,724	620	31.4	29.2	175	8.8	8.5
1853	11,004	644	30.5		129	6.1	
1854	11,434	925	40.1		353	15.7	
1855	20,534	641	26.9		665	2.7	
1856	21,834	772	30.6		136	5.3	
1857	22,574	883	33.2		234	8.8	
1858	27,244	753	23.9		128	4.5	
1859	28,314	826	28.1		212	7.2	
1860	30,764	632	21.5		95	3.0	
1861	31,051	837	26.1		100	3.1	
1862	32,504	695	21.2	24.2	132	4.0	4.6
1863	33,332	862	25.7		268	7.0	
1864	34,000	932	27.1		250	7.3	
1865	35,018	867	24.7		161	4.5	
1866	35,736	882	24.6		102	5.3	
1867	36,544	873	23.8		116	3.1	
1868	37,332	843	22.6		109	2.9	
1869	38,343	1,005	26.4		156	4.1	
1870	38,783	903	23.2		133	3.4	
1871	39,353	891	22.5		153	3.9	
1872	40,231	916	22.7	20.0	234	5.8	3.2
1873	41,031	995	24.2		103	2.5	
1874	41,730	885	21.2		154	3.6	
1875	42,850	1,547	22.1		294	4.2	
1876	42,423	1,455	20.8		339	4.0	
1877	43,023	1,475	19.6		255	3.5	
1878	44,314	1,468	18.9		197	2.5	
1879	45,232	1,428	17.6		137	1.7	
1880	46,700	1,634	19.7		306	3.7	
1881	47,878	1,556	19.2	21.5	164	1.9	3.3
1882	48,603	1,724	19.4		293	3.3	
1883	51,204	1,807	19.8		253	2.7	
1884	53,468	2,250	24.3		476	5.0	
1885	57,034	2,481	25.5		521	5.3	
1886	100,793	2,269	22.5		532	3.2	
1887	104,530	2,280	21.8		278	2.6	
1888	108,570	2,212	20.3		324	2.9	
1889	112,712	2,190	19.4		248	2.1	
1890	117,012	2,469	21.1		282	2.4	
1891	120,298	2,873	22.0	17.9	272	2.0	2.3
1892	132,893	2,560	19.2		371	2.7	
1893	136,163	2,794	20.4		408	2.9	
1894	139,519	2,415	17.3		257	1.8	
1895	142,958	2,840	19.9		324	2.2	
1896	146,479	2,795	19.0		362	2.4	
1897	150,087	2,534	16.8		371	2.4	
1898	153,782	2,627	17.0		396	2.5	
1899	157,414	2,858	18.1		384	2.4	
1900	161,452	2,667	16.5		402	2.4	
1901	165,903	2,653	16.0		284	1.7	

* Canton and Roath taken into the Borough.

Populations and death-rates as estimated by the Registrar-General previous to the year of 1901:—

Estimated Population.	Death-rate.	Year.	Estimated Population.	Death-rate.
186,191	18.7 per 1,000	1897	170,033	14.9 per 1,000
182,385	18.6 "	1898	175,770	"
183,820	18.2 "	1899	185,826	15.3 "
185,000	18.2 "	1900	194,247	13.7 "
186,500	18.8 "			

TABLE XIV.

Types of Infectious Diseases notified in the Cardiff Urban Sanitary District during the year 1901, under the Infectious Disease Notification Act, 1889:—

	1899	1901	1902	1903	1904	1905	1906	1907	1908	1909	1910	1911	
Small-Pox	9	5	4	10	1	45	7	...	...	4	8
Scarlet Fever	...	63	67	155	462	326	229	296	512	940	628	706	724
Dysentery	...	9	3	9	17	17	19	10	4	20	12	8	10
Enteric Fever	...	885	685	1,851	816	577	484	874	758	332	184	383	1,362
Typhoid Fever	...	132	130	118	105	82	79	74	117	80	34	45	7
Measles	41	7	...	1	...	...	...	4	...
Whooping Cough	...	45	52	95	152	135	132	134	163	133	176	106	152
Infantile Parotitis	...	4	10	12	24	19	17	21	12	13	13	15	16
Total	...	908	956	2,245	1,621	1,147	961	1,455	1,573	1,523	1,107	1,521	2,245

SMALL-POX.—Nine cases of Small-Pox occurred in the Borough during the year. These cases, including one which terminated fatally, came under observation in the first quarter of the year, and the other two in the second quarter.

On the 15th March my attention was called by the District Medical Officer to a sailor living in a house in Bridgend Street suffering from Small-pox of a severe hemorrhagic type. This person was removed to the Small-pox Hospital, where he died a few days after admission.

On making an inspection of the premises on the above-named date, I found two other persons suffering from the same disease—both children of the occupier of the house, one a child 14 years, the other a child four years old. These cases were also removed to the Hospital without delay. The source of infection in these cases was not ascertained with absolute certainty, but in all probability the disease was contracted from a lodger, a sailor, who arrived at the house in Bridgend Street on February 9th, and remained there until February 25th, when he left London, and visited a medical practitioner living in the neighbourhood of the London Docks. The nature of the illness for which he sought medical advice did not transpire, but I ascertained subsequently that the vessel which he left the day before arriving in Cardiff had cases of Small-pox on board during the voyage.

These three persons had been suffering from Small-pox for four or five days before they came under observation, and during this time there were many opportunities for the transmission of the disease to others. In this way four other persons were infected.

A daily visit was paid to all persons who had been in contact with the patients, and on the 27th March three other inmates of the house were found to be suffering from the disease in various stages (the occupier and two lodgers). They were immediately removed to the Hospital. Two inmates of the house had been re-vaccinated on March 15th, but as they had been previously exposed to infection for four or five days, the operation did not protect them. On the 28th March my attention was called by a medical practitioner to another person infected with Small-pox from the same source. An insurance agent, living in Glenroy Street, visited the house in Bridgend Street on March 14th, and remained some time in the room with the infected person. His name had been accidentally omitted from the list of persons who had been in

the infection, and he was not therefore visited with the others, and so escaped the disease on the second day of the appearance of the eruption. The only other inmates of the house were the man's wife and infant. The former had previously suffered from Small-pox, and was vaccinated. Fortunately no further spread of the infection occurred from this house.

On 1st June the District Medical Officer for Roath notified two cases of Small-pox imported by some gipsies, located on some spare ground in that district. The persons with the disease were a woman of about thirty years of age and an infant. No trace of infection in these cases could be discovered. The remaining occupants of the house on this land were re-vaccinated and visited daily for a fortnight. The infected quantity of old clothes and rags were burned on the spot, and no fresh cases occurred.

Following particulars were obtained as to the condition of these small-pox patients before vaccination:—

Case.	Date.		Vaccinated or Unvaccinated.	
No. 1	...	15th March	...	Unvaccinated; terminated fatally.
" 2	...	" "	...	Vaccinated in infancy; mild case.
" 3	...	" "	...	Unvaccinated; severe confluent case.
" 4	...	27th March	...	Vaccinated in infancy.
" 5	...	" "	...	" "
" 6	...	" "	...	" "
" 7	...	" "	...	" "
" 8	...	1st June	...	Unvaccinated.
" 9	...	" "	...	"

In no disease is hospital isolation of such paramount importance as in small-pox. In regard to the history of this disease in other places, and in Cardiff in times when hospital accommodation was either entirely absent or quite inadequate, we may safely assume that our immunity from the disease during the year under consideration and also during the year 1896 has been due to the fact that every case of small-pox which has occurred has been promptly removed to hospital as soon as it was discovered. The most recent outbreak of small-pox in Cardiff previous to the provision of adequate hospital accommodation occurred in 1857, when 61 cases occurred in 53 different houses, the epidemic prevailing during the winter months and extending to all parts of the town. Dr. Paine, who was Medical Officer of Health at the time, in his Annual Report for that year attributed the spread of the disease and the continuation of the outbreak to the absence of hospital accommodation, and to the difficulty of procuring proper isolation of the patients in their homes. Since that date the number of cases of small-pox reported annually has been as follows:—

Year.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.	1901.
No. of cases.	9	5	4	10	1	45	7	0	0	4	9

Of none of these cases was removed to the Small-pox Hospital, each one being a fresh introduction of the disease into the town. Even in the year 1896, when small-pox was imported from Gloucester and the neighbourhood on many occasions, it did not spread to the houses originally infected. There would seem, therefore, to be little cause for apprehension of introduction of a few cases of small-pox into a locality well provided with hospital accommodation. Fortunately, also, in the case of small-pox, everyone can secure protection by vaccination. Although the number of available beds for small-pox patients is small, the location of the Hospital is open to the objection that it is too near to the General Hospital and Infectious Diseases, and when any extension of this building is required, the removal of the Small-pox Hospital from its present site will become necessary. The infection of small-pox is conveyed through the air to considerable distances; it is necessary, therefore, that small-pox hospitals should be in isolated positions.

A Memorandum of the Local Government Board, dated August, 1900, contains the following—

HOSPITALS FOR SMALL POX.—In view of the frequently demonstrated liability of Pox Hospitals to disseminate that disease to neighbouring communities, and in order to prevent such occurrence, the Board require the following conditions to be complied with in the use of Small Pox Hospitals provided by means of loans sanctioned by them:—

1. The site must not have within a quarter of a mile of it either a Hospital, whether for infectious diseases or not, or a Workhouse, Asylum, or any similar establishment, or a population of as many as 200 persons.
2. The site must not have within half a mile of it a population of as many as 600 persons, whether in one or more institutions, or in dwelling houses.
3. Even where the above conditions are fulfilled, a Hospital must not be used at one and the same time for the reception of cases of Small Pox and of any other class of disease."

The following particulars have been supplied to me by the Vaccination Officer of the Cardiff Board of Guardians, and relate exclusively to the Borough of Cardiff:—During the year 1900 11,307 births were registered within the Borough, 503 children died unvaccinated; of the total 8,307, or 73·1 per cent. were successfully vaccinated; 69 certificates of conscientious objection were granted, equal to 1·4 per cent. of the births; 933 or 19·7 per cent. were accounted for as under medical supervision. It would appear that both the number of children unaccounted for as regards vaccination and of certificates of conscientious objection are in Cardiff below the average of England and Wales. The latest available statistics show that in the year 1898 60·4 per cent. of children born in the Country were successfully vaccinated; 0·4 per cent. were under medical supervision; 2·1 per cent. as having had Small-pox; 2·1 per cent. as under medical supervision; and 5·8 per cent. of whom certificates of conscientious objection to vaccination had been obtained, leaving 22·4 per cent. still unaccounted for as regards vaccination.

The Clause in the Act of 1898 relating to the "conscientious objector" was evidently intended to discourage repeated and often vain attempts to compel those who honestly object to vaccination to submit their children to vaccination. It is doubtful, however, if it has conducted to more vaccination, as was anticipated. The Act of 1898 expires at the end of the year 1903, and strong feeling exists that this will be a suitable time for transferring the administration of the Vaccination Acts to sanitary authorities.

MEASLES.—Three deaths from Measles were registered as compared with 162 in the preceding year. These deaths, which occurred in the third quarter of the year, were equivalent to a natural death-rate of 0·01 per 1,000 persons living. The average death-rate from Measles for the ten years 1891-1900 was 0·41 per 1,000.

The epidemic which prevailed during the first half-year of 1900 had entirely disappeared at the commencement of the year under consideration.

The death-rate from Measles throughout the country in the year 1901, was as follows—

					Death-rate per 1,000.
England and Wales	...	...	...	...	0·27
33 Great Towns	...	...	...	...	0·43
67 other Large Towns	...	...	...	...	0·25
Cardiff...	...	...	...	...	0·01

In the large towns the Measles death-rate ranged from 0·00 in Derby, 0·01 in Cardiff, 0·02 in Portsmouth, to 0·58 in Birmingham, 0·63 in Bolton, 0·77 in Blackburn, and 1·00 in Norwich.

COUGH.—Eighty-six deaths were registered during the year. Of these 22 in the first, 22 in the second, 18 in the third, and 8 in the fourth quarter of the year. The deaths were equal to an annual death-rate of 0·52 per 1,000 persons living, and was the second highest of the chief Zymotic diseases in this year. The average death-rate from cough in Cardiff during the ten years 1891-1900 was 0·47 per 1,000.

In large towns the rate in 1901 ranged from 0·02 in Huddersfield, 0·18 in Halifax, 0·50 in Bristol, 0·72 in Sunderland, and 0·88 in Swansea.

ENTERIC FEVER.—Eleven deaths were registered from enteric fever, as compared with the preceding year. The deaths were equal to an annual mortality of 0·06 per 1,000 persons living. The average annual death-rate from enteric fever in Cardiff during the ten years 1891-1900 was 0·12 per 1,000.

The mortality from this disease throughout the country was as follows in 1901 :—

					Death-rate per 1,000.
England and Wales	...	...	...	...	0·16
63 Great Towns	...	...	...	...	0·17
67 other Large Towns	...	...	...	...	0·18
Cardiff...	...	...	...	...	0·06

During this year the death-rate from enteric fever in the 63 large towns ranged from 0·04 in Cardiff, 0·18 in Wolverhampton, 0·25 in Sunderland, to 0·81 in Sheffield, and 0·84 in Nottingham.

In the 63 houses in Cardiff in which enteric fever occurred, eight were found with insanitary arrangements. In each case the defects were remedied under the supervision of the Inspector of Nuisances.

Of the 79 cases of enteric fever notified at all ages during the year, 24 were under the age of five years, and the remainder between the ages of 15 and 65.

Twenty-seven cases, or 34 per cent. of the total notified, were removed to the Sanatorium.

Of the 79 cases notified during the year 22 were imported into the town from outside Cardiff, and 57 were secondary cases occurring in the same house.

The following table shows the number of cases of enteric fever notified, and the mortality in Cardiff during the ten years 1891-1900 :—

TABLE IV.

Year.	Cases Notified.	No. of Deaths.	Death-rate per 1,000 persons living.	Mortality per cent. of cases notified.
1891	130	26	0·19	20·0
1892	118	24	0·18	20·3
1893	103	18	0·13	17·4
1894	62	7	0·05	11·2
1895	79	14	0·09	17·7
1896	74	13	0·08	17·5
1897	117	20	0·13	17·0
1898	80	17	0·11	21·2
1899	94	20	0·12	20·2
1900	95	25	0·15	26·3
1901	73	11	0·06	15·0

DIPHTHERIA AND MEMBRANOUS CROUP.—Seventy-eight deaths were caused by these diseases, giving an annual death-rate of 0·47 per 1,000, as compared with the average rate in the ten years 1891-1900.

The mortality from diphtheria throughout the country in 1901 was as follows:—

						Death-rate per 1,000.
England and Wales	...	...	...	...	...	0·27
Great Towns	...	...	...	...	...	0·30
Other Large Towns	...	...	...	...	...	0·28
Cardiff	...	...	...	...	...	0·47

The number of cases of diphtheria notified during the year was 724, which was a maximum, with one exception, since the year 1891. From the following table it will be seen the maximum during the 10 years, 1891-1900, was reached in the year 1898, when the total amounted to 940.

Year.	Population.	No. of Cases Notified.		No. of Deaths.		Death-rate per 1,000.	Mortality per Cent. of Cases Notified.
1891	130,283	...	57	...	16	0·21	23·8
1892	132,895	...	147	...	38	0·27	24·1
1893	136,168	...	462	...	93	0·67	20·1
1894	139,519	...	326	...	59	0·42	18·0
1895	142,958	...	229	...	46	0·32	20·0
1896	146,479	...	296	...	55	0·38	18·6
1897	150,087	...	512	...	90	0·59	17·5
1898	153,783	...	940	...	129	0·84	12·6
1899	157,414	...	628	...	61	0·38	9·7
1900	161,452	...	706	...	81	0·50	11·4
1901	165,308	...	724	...	78	0·47	10·7

Diphtheria has prevailed extensively throughout South Wales during the year, chiefly in those districts between which there is a very free and frequent intercommunication by railway. This is shown in the following table, which gives the quarterly death-rates from diphtheria in the Rhondda and Merthyr Tydfil Urban Districts, as compared with those in Cardiff.

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.
	Death Rates per 1,000.	Death Rates per 1,000.	Death Rates per 1,000.	Death Rates per 1,000.
Rhondda	1·08	1·12	1·16	1·12
Merthyr Tydfil	0·28	0·63	0·86	0·52
Cardiff	0·31	0·44	0·46	0·68

In the last published Annual Report of the Registrar-General for the year 1901, the following paragraph appears relating to the excessive mortality from diphtheria in the four Southern Counties:—"Arranged in descending order of fatality, the following districts were the most severely:—South Wales, where the mortality was equal to 837 per million living; Gloucestershire, 703 per million; and Monmouthshire, 658 per million. Out of a total of 1,217 deaths from diphtheria and croup registered in Monmouthshire and South Wales, not fewer than 1,115 occurred in the area covered by the following contiguous districts:—Bedwellty, Llangatwg, Newport, Cardiff, Pontypridd, Merthyr Tydfil, Neath and Swansea."

Taking the years 1896—98, we find also from the same Report that the highest average mortality for that period (528 per million) occurred in South Wales, as compared with 261 per million in the rate of mortality in England and Wales (less London), the rate in the County of London being 522, the next in order of fatality to South Wales.

case fatality, or the proportion of deaths from diphtheria to cases notified in the year 1901, was at the rate of 10·7 per cent. This fatality was exceedingly low, and seems to indicate that the disease which prevailed throughout the year was of a mild type. In the foregoing Table it will be seen that during the past four years the proportion of fatal diphtheria has been unusually small; 351 cases were removed to the Sanatorium, and only 20, or 5·2 per cent., proved fatal.

Diphtheria was distributed throughout the district, the number of notifications ranging from 180 in the East, 180 in the Central, to 356 in the West Cardiff Registration Sub-district. On various occasions, occurred chiefly amongst infants and young children, 80 per cent. of the cases notified being children under 15 years of age. Diphtheria is not only a disease of children, in preference to adults, but it is also much more fatal when attacking young children, the mortality rate diminishing with advancing years.

The following Table shows the number of cases notified and the mortality at certain age groups.

TABLE XVII.

	No. of Cases Notified.	No. of Deaths.	Proportion of Deaths to Cases Notified.
Under 1 year...	9	3	33·3 per cent.
1-4 years ...	227	47	20·7 „
5-14 „ ...	357	27	7·8 „
15-24 „ ...	77	0	0·0 „
25-34 „ ...	53	1	1·8 „
35 upwards ...	1	0	0·0 „

From the foregoing it will be seen that the mortality was practically confined to children, although 181 cases of diphtheria were notified of persons over 15 years of age, and only 20 of these proved fatal.

The mortality from diphtheria in any district depends, therefore, to a considerable extent upon the age of the persons attacked, and is, of course, influenced by the age distribution of the population of the district.

In order to ascertain the extent of this age influence upon the diphtheria death-rate in Cardiff, it is necessary to examine the question a little more closely, as at first sight it might appear that the mortality was entirely the result of an unusually large proportion of children being attacked. However, does not appear to be the case, for if we take the statistics of other districts, we find that this proportion is by no means above the average.

In Manchester, for instance, during a period of ten years 1891-1900, out of a total of 1,027 diphtheria notified, 1,027 or 26 per cent. were over 15 years of age, whereas in the year under consideration, only 18 per cent. of the notifications were of persons over 15 years of age. On the other hand, it would appear that the mortality amongst the cases notified between the ages of 5 and 15 years was in Cardiff much below the average. In Manchester, for instance, 5 cases died between these ages, or 2·8 per cent. of the notified cases, compared with a case fatality of 7·8 in Cardiff in the year 1901.

Thus, in Cardiff, the proportion of deaths to cases notified has been as follows:—

	Case Mortality.
1901 ...	25 per cent.
1900 ...	20 „
1899 ...	11 „
1898 ...	11 „

In Bristol as follows:—

Year.				Case Mortality.
1897	...	...	...	24·7 per cent.
1898	...	...	...	20·2 „
1899	...	...	...	21·1 „
1900	...	...	...	20·1 „

In the London Hospitals of the Metropolitan Asylums Board the case mortality of diphtheria is at the rate of 28 per cent. The foregoing examples have been given for the following reasons—Firstly: Because they relate to cities of the first magnitude in which the number of cases dealt with are so large that conclusions drawn from average rates are not liable to be vitiated by an amount of insufficient data. Secondly: Because the returns in the Annual Reports of the Medical Officers of Health for these places are very complete, and in a form easily available for reference; and Thirdly: Because, obviously, the patients have, as regards treatment, been under the most favourable conditions for recovery.

It is not easy, therefore, to account for the low case mortality of Diphtheria in Cardiff compared with other towns. It is now a well recognised fact that the administration of antitoxin in the early stages of the disease has, of late years, reduced the mortality from diphtheria, and the Medical Superintendent of the Manchester Isolation Hospital refers to this in his last published report in the following terms:—“It is gratifying to note that the mortality from diphtheria has fallen from 22·2 per cent. in the year 1897 to 18·7 per cent. in 1900. It cannot be too frequently mentioned that the death-rate from diphtheria depends on the promptness with which the disease is cut short by the administration of antitoxin before any severe changes can have resulted from the diphtheria toxæmia. . . I am pleased to say that though a death-rate of 18·7 per cent. allows of great room for improvement, yet the amelioration already obtained is apparently in part due to the above cause.” Making every allowance, therefore, for treatment of cases by antitoxin, it would appear that our case mortality from diphtheria is considerably below the average, and it is, therefore, almost impossible to reach the conclusion that this is in part produced by a certain proportion of cases being returned as diphtheria in Cardiff which in other places would not come under that denomination, but would be regarded as cases of some milder form of throat affection.

In the absence of any connection with local insanitary conditions, or with any infection of milk, or with any disease of the lower animals, it is probable that most of the cases of diphtheria which occurred during the year owed their origin to the ordinary mode of infection by personal contact. It is to be feared that a certain number of children suffering from diphtheria in a mild form, and who are perhaps not under medical treatment, convey the infection, and are the means of introducing it into schools. There is evidence to show that sometimes persons who have been in contact with infected persons may convey the infection without being ill themselves. The disease may also be spread by convalescents who mix with other persons before they are free from infection. With a view to discover cases coming under any of these categories, I propose to utilize more freely the resources of our Public Health Laboratory, and have arranged with Dr. Savage, our Bacteriologist, to institute next year a systematic bacteriological examination of as many of such cases as time and opportunity will permit. Dr. Savage will undertake the examinations, acting of course with the consent of the Medical Officer of Health, and with the assistance of those of our qualified pupils of the Public Health Department of the College, who may be willing to assist in the investigation. The information obtained in this way will, it is presumed, be of great assistance to the Medical Officer of Health in enabling him to take further precautionary measures against the spread of diphtheria. This procedure would also, incidentally, have the advantage of affording a valuable aid to diagnosis in doubtful cases, and it might then be possible to restrict the admission to the Sanatorium to those cases in which the bacteriological examination gave a positive result, and by this means effect a considerable saving of expense.

SCARLET FEVER.—Twenty-nine deaths were registered from scarlet fever during the year. This number was equal to an annual death-rate of 0·17 per 1,000 of the population, corresponding exactly with the average in the ten years 1891—1900.

Mortality from scarlet fever throughout the country in 1901 was as follows:—

					Death-rate per 1,000.
England and Wales	...	...	...	...	0·15
Urban Towns	...	...	...	...	0·17
General Large Towns	...	...	...	...	0·14
Rural Districts	...	...	...	...	0·17

The total number of cases of scarlet fever notified during the year was 1,362, and from the above figures it will be seen that, with the exception of the year 1892, when the maximum of 1,851 cases was notified, 1901 was the greatest number notified since the Infectious Disease Notification Act came into force.

The proportion of deaths to cases notified was comparatively low, amounting to 2·1 per cent.

TABLE XVIII.

	Population.	No. of Cases Notified.		No. of Deaths.		Death-rate per 1,000.	Mortality per Cent. of Cases Notified.	
1901	180,286	...	685	...	35	0·27	...	5·0
1902	182,885	...	1,851	...	87	0·65	...	4·7
1903	184,100	...	816	...	39	0·28	...	4·7
1904	184,611	...	577	...	8	0·05	...	1·3
1905	182,808	...	484	...	8	0·05	...	1·6
1906	184,470	...	574	...	28	0·19	...	3·2
1907	182,087	...	738	...	17	0·11	...	2·2
1908	184,788	...	332	...	8	0·05	...	2·4
1909	187,414	...	184	...	3	0·01	...	1·6
1910	181,452	...	383	...	11	0·06	...	2·8
1911	185,800	...	1,362	...	29	0·17	...	2·1

The local incidence of scarlet fever in each quarter of the year, as shown by the figures in the Registration Sub-districts, was as follows:—

	1st Quarter.	2nd Quarter.	3rd Quarter.	4th Quarter.	Total.
St. Andrew	71	67	102	183	423
St. John	36	77	79	147	339
St. Peter	60	91	116	330	597
Workhouse	—	—	1	2	3
Total	167	235	298	662	1362

Of the 1362 cases of Scarlet Fever notified, 638 or 46·8 per cent. were removed to the Hospital.

Although the number of cases removed to the Hospital was larger than in any previous year, as the proportion so removed was low, the Hospital accommodation was taxed to its utmost. The Medical Superintendent reported that at times the wards were unduly crowded, and many applications for admission had of necessity to be refused. Scarlet fever did not take an epidemic form during the whole of the year under consideration, and to a great extent during the latter part of the year 1900. No part of the town escaped, and as shown from the above figures, the number of cases reported increased in each succeeding quarter, reaching the maximum in all three divisions in the fourth quarter. The relative incidence in the different districts obviously depended for the most part upon the facilities for the spread of infection from person to person which may have varied at times in these

experience shows that epidemic waves of Scarlet Fever pass at intervals of years over most of the large cities and towns in this Country. One attack of scarlet fever confers immunity from further attacks, consequently an extensive epidemic in a town has the effect of protecting the community from infection for a few years, until with a growing population a large number of children again attain the age at which they mix with others in school and in public places, and a renewed outbreak occurs amongst a fresh portion of the population.

The amount of susceptible material and the extent of the outbreak increasing with the interval between the epidemics.

It is not easy to estimate with accuracy the extent of the prevalence of scarlet fever in epidemic periods. Neither the death-rate nor the proportion of notifications afford absolute data. The death-rate depends of course largely upon the prevalence, but also upon the type or degree of fatality of the disease. The proportion of deaths to cases in London ranged during the ten years 1891-1900 from 1.3 per cent. in 1894 to 5.0 in 1899. Obviously the disease was more than twice as fatal to those attacked in the last year as to those in 1894.

It is obvious, therefore, that there was some cause operating in 1901 which had the effect of raising the sickness rate and mortality in the epidemic of that year which was not in 1892. This may be found, I think, in the more complete isolation by removal to Hospital of the infected persons.

The proportion of notifications also depends to some extent upon the type of scarlet fever prevailing at the time, as it is found in practice that when a mild type prevails a greater number of cases are unrecognized, and so escape notification. The returns, however, show that in the notifications numbered 1,851, or in the proportion of 14 per 1,000 persons living, in 1892, with 1,832, or 8.4 per 1,000 in 1901, whereas the deaths in the former year were in the proportion of 0.65, against 0.17, the rate in 1901. It has been assumed by some that Hospital isolation which is now so extensively carried out in most large towns has had the effect of checking the prevalence of scarlet fever, and it is certain that the statistics do not warrant the hope that this disease will be ever completely eradicated by this means. But it is obvious that the removal of centres of infection from populous districts must reduce the amount of the disease, and although it is impossible to state what would have been the result of an epidemic of 1901 in the absence of Hospital isolation, it is fair to assume that the marked difference in the mortality and sickness rate in 1892, as compared with 1901, was mainly due to the absence of Hospital accommodation in the former year, whereas in the recent epidemic over 600 cases were removed to the Hospital. But quite apart from the influence of Hospital isolation upon the spread of the disease, there is an obvious advantage to the community in the lessened interference with school attendance and with various trade pursuits amongst the families from which the infected person has been removed, which more than offsets the necessary expenditure of Hospital maintenance.

Although hospital isolation may never entirely remove scarlet fever from amongst us, if systematically enforced, have the effect of lessening the extent of an epidemic, and of lengthening the interval between epidemic periods, thus reducing the sickness rate and the mortality of the disease by postponing the infection until a later age.

It has been shown by Dr. Whitelegge, upon an analysis of about 6,000 cases, that in children infected during the first few years of life there is a double gain: every child who escapes from scarlet fever renders him less and less susceptible, until finally he becomes almost invulnerable, and secondly, even if he should ultimately take the disease, every year that he is spared reduces the danger to life which it brings.

In the following table the deaths have been distributed according to age periods and according to the year.

DIARRHOEA.—The deaths from diarrhoea numbered 75, being equal to an annual death-rate of 0·45 per 1,000 persons living. The average rate in the ten years 1891-1900 was 1·12.

The death-rate from diarrhoea throughout the country, in the year 1901, was as follows:—

					Death-rate per 1,000.
England and Wales	...	...	...	...	0·91
33 Great Towns	...	...	...	...	1·23
17 other large towns	...	...	...	...	1·09
Cardiff	...	...	...	...	0·45

The distribution of diarrhoeal mortality in Cardiff, according to the season of the year, and various age periods, was as follows:—

			Under One Year.	One and under Five Years.	Five and under Fifteen Years.	Fifteen and under Twenty-five years.	Twenty-five and under Sixty-five.	Sixty-five years and upwards.	Total.
1st Quarter	...	...	—	—	—	—	—	—	—
2nd Quarter	...	...	4	—	1	—	—	—	5
3rd Quarter	...	...	51	4	—	—	2	1	58
4th Quarter	...	...	11	1	—	—	—	—	12
Total 1901	...	...	66	5	1	—	2	1	75

From the preceding table it will be seen that of the 75 deaths from diarrhoea during the year 1901, 58 occurred in the 3rd quarter of the year. Of these, 51 were amongst infants and young children.

The relation between the temperature of the air, rainfall, and the diarrhoea mortality during the third quarters of the ten years 1892-1901, is shown in the following table:—

TABLE XIX.

Diarrhoeal Mortality in the 3rd Quarters of the years 1892-1901:—

Year.	Death-rate per 1,000.	Mean Temperature.	Rainfall in inches.
1892	2·3	60°·4	12·4
1893	2·5	61°·8	8·9
1894	0·5	57°·0	10·9
1895	2·5	59°·5	9·9
1896	2·4	58°·9	11·3
1897	2·6	59°·3	14·3
1898	2·6	60°·3	5·8
1899	3·2	63°·3	5·3
1900	1·2	59°·7	6·0
1901	0·45	61°·2	11·1

From the above it will be noticed that the maximum death-rate coincided in point of time with the maximum mean temperature and with the minimum rainfall, and that the lowest death-rate (0·5) coincided with the lowest mean temperature (57°·0), and with an abundant rainfall.

mortality amongst young children is practically confined to the summer months, being higher in hot and dry summers. The mortality appears to depend on the increased activity of bacterial life which takes place during this season of the year. In the layers of the soil, when also fermentative and putrefactive changes more or less of organic substances. Infants fed entirely upon the breast suffer little from the incidence of the disease falls almost entirely upon those fed upon cows' milk—substances which, unless the greatest care is exercised, rapidly undergo changes which render them unfit for food.

—A fatal case of plague occurred during the year under circumstances of which the infection appears to have been introduced into the town by means of the importation of grain.

The evidence in favour of the assumption that the illness in this instance was due to plague was exceedingly strong. This will be seen from the subjoined Report, which was presented to the Health Committee shortly after the occurrence.

The source of the infection, as far as human beings were concerned, was limited to this case.

TOWN HALL, CARDIFF,

26th February, 1901.

TO THE HON. MEMBER AND MEMBERS OF THE HEALTH AND PORT SANITARY COMMITTEE.

SIR,

I have the pleasure to submit to you the following Report on a fatal case of plague which occurred in Cardiff on the 31st January last. On the 20th my attention was called by Dr. Campbell, M.B., F.R.C.S., living at 4, Spring Gardens Terrace, and who was suspected to be suffering from plague. The symptoms were of a somewhat indefinite character, and before a diagnosis could be given as to the nature of the case a bacterial examination was necessary. Samples of blood and fluid from an inflamed gland were taken from the patient by Dr. Savage, M.B., F.R.C.S., at the Cardiff and County Public Health Laboratory, and the usual cultural and bacteriological examination established incontestably the presence of the plague organism. Subsequently the material was forwarded to Dr. Klein, the Bacteriologist of the Local Government, who was of opinion that the case to be one of plague. The condition of the patient at the time of his illness was such that it was impossible to remove him to the Hospital, and he remained at his residence until he died on the 31st January. The body was removed for burial to the Cardiff Cemetery on the following day, having been completely covered with linen wrappers steeped in a solution of carbolic acid and sublimate. On inquiry I found that J. C. complained of feeling ill on the 20th January, and on the following Monday was too ill to go to work. Up to this time he had been working at some Grain Stores in the Collingdon Road, West Bute Dock. A full inquiry and an examination of the men employed at these Stores failed to reveal any case of illness at all resembling Plague. An examination of the Mortality Statistics and of the reports of the Medical Practitioners afforded no indication of any unusual illness in the town. It was, therefore, impossible to connect the disease in the case of J. C. with any antecedent case of plague amongst human beings. It became necessary, therefore, to search for some other source of infection.

It is well known that rats suffer from plague, and can convey it to persons by some means which is not sufficiently explained. My attention was first directed to an unusual mortality amongst these animals by a statement made by the patient to Dr. Campbell, to the effect that he had seen a large number of rats at and in the neighbourhood of the Grain Stores.

This statement, fully confirmed by subsequent enquiries, which elicited the fact that during the two or three weeks preceding the fatal illness rats had been seen in large numbers

condition in this locality. I was fortunately able, on February 4th, to find which the patient worked two dead rats, one of which had quite recently died. I sent at once to the Laboratory for examination, and the following is Dr. Savage's

CARDIFF AND COUNTY PUBLIC HEALTH LABORATORY.

February 5th, 1901.

Two rats were forwarded to me on the 4th inst., about 12.15 p.m., by Dr. Walford, the Medical Officer for Cardiff. They were both dead, and the Post Mortem Examinations were made at once. The small rat was in a partially decomposed condition, and gave off a strong odour. Careful examination did not in any way show that the animal had died of plague. The large rat appeared fresh and only recently dead. Conclusive evidence was obtained that the animal had died of plague, and the plague bacilli were found in large numbers in the lungs, spleen and other internal organs. It can be taken as an assured fact that the two rats have died of plague infection. Such animals would be potent sources of infection to other rats and to human beings.

WILLIAM G. SAVAGE, M.D., Lond.

At the request of Mr. W. H. Power, C.B., the Medical Officer of the Local Government Board, I forwarded on the 5th inst, from the same stores, the body of a recently dead rat to Dr. Walford. On the next day received the following telegram: "Medical Officer Local Government Board." In the face of these reports of plague infection acting independently, it became evident that we had to deal with a disease spread through plague-infected rats in a manner very similar to that which occurred in Spring in January, 1900, where the first known case was apparently traced to this infection, and occurred in a person working at wharves upon which large numbers of rats were found dying of plague at the time. Inquiries were at once made with a view to ascertaining if any of the workmen at the Wharves and Stores on the West Dock were absent from work on account of illness, and on February 1st, through the courtesy of the Medical Officer of the Companies having warehouses and stores in this locality, I found one John H. Williams, house in No. 8, Iron Street, who complained of feeling very ill with severe headache, vomiting and nausea, and with a rapid pulse, and temperature of 103.0 F. At the same time the patient complained of extreme pain and tenderness in the left arm pit, where the lymphatic glands were found swollen and inflamed. From the patient's statement I found that he had been engaged quite recently in carrying dead rats to a furnace for destruction. Under these circumstances I thought it advisable to have him removed to the hospital for observation. Some blood and urine were taken for bacterial examination, but in this case Dr. Savage reported that there was no evidence of the presence of the plague organism. The patient rapidly recovered from his illness, which was probably caused by some local lesion accompanied by inflammation of the lymphatic glands and glands of the arm and axilla. At a Special Meeting of the Health Committee, held on February 5th, full powers were delegated to your Chairman and Medical Officer of Health to take all necessary measures for preventing the spread of the disease, and at the same time Dr. Reece, one of the Medical Inspectors of the Local Government Board, gave his assistance and advice. The preventive measures which were taken consisted, in the first place, of a complete medical and sanitary inspection of what might be regarded as the infected area, namely, the Wharves, Warehouses, Stores and Mills on the West Dock.

The medical inspection was accomplished with the assistance of four medical men, who were specially engaged to assist the Medical Officer of Health in the examination of the infected area. The number examined amounted to about 700. The sanitary inspection was carried out by the Medical Officer of Health and his staff of Inspectors. Those persons who had been in contact with the patient at his home were also kept under daily observation. The infected premises were thoroughly cleansed and disinfected, and most of the

and clothing in the sick room were destroyed. The removal of existing was carried out, and the more efficient cleansing and scavenging of the insisted upon.

which the infected rats were found, and at which the person who were completely cleansed, disinfected, and lime-washed throughout, destroyed, and particular attention was paid to the exact locality where were found, and which was, in fact, the rat-run on the premises, between the matchboarded roof of the engine room and the floor of the Grain The inspection resulted in the discovery at the time of a considerable number of and some of the adjoining premises, and there was evidence of the presence of Following my advice, the occupants of the warehouses, etc., forthwith cleaned and the known rat-chairs in the district, and about 20 or 30 rats were placed in

the suggestion of Dr. Reece, it was decided to follow the example of the Authorities and other places in which outbreaks of plague had occurred, and offer a reward for accordingly bills were posted throughout the town offering 4d. for each to the Corporation Depot, where their bodies were burned.

The Hospital on the Flat Holm, belonging to the Port Sanitary Authority, was got for the accommodation of any cases of plague which might occur, and a supply of anti-plague serum obtained for those who were willing to be inoculated. The of workmen was kept up for three weeks after the fatal termination of this and did not result in the discovery of any further cases. The bacterial examination has been continued up to the present date with negative results, and it that the unusual mortality amongst these animals, which evidently existed for previous to the occurrence of the case, has altogether ceased.

Indicates indicate that all danger of plague infection from rats as well as from human is over, and that we have fortunately escaped any serious outbreak of the disease.

In conclusion I have to advise your Committee to urge upon the Burial Board the of a Crematorium at the Cardiff Cemetery in accordance with the powers of a Local Act of Parliament. In all probability the cremation of the person might in this case have been carried out had there been the means at the Cemetery, and I may add that during the past few years several applications from persons desirous of having the remains of their deceased relations cremated

I would advise that the construction of the Disinfection Station which you are desirous of having should be proceeded with with as little delay as possible.

It is desirable that articles containing infection from diseases, such as plague should be taken to the disinfecting apparatus at the Sanatorium, as these diseases are at this institution, and as by so doing a fresh dangerous infection is at times arises, a proceeding attended with some danger to the inmates therein.

I am, Gentlemen, your obedient Servant,

EDWARD WALFORD, M.D.,

Medical Officer of Health.

TUBERCULOSIS.—From the statistical tables included in this Report, it will be seen that 175 deaths were registered from phthisis alone, giving a death-rate of 1·05 per 1,000 population, one of the highest rates of any single disease.

If all other forms of tuberculosis be included, the deaths from these allied diseases amount to 172, or 10·4 per cent. of the total deaths from all causes during the year.

Chronic phthisis or Consumption seems to have been at all times abnormally fatal in South Wales, particularly in North Wales. The following table shows the number of persons living were for the unmentioned periods, as compared with the population, as follows:—

1861-70.		1871-80.	
England and Wales	... 2,475	England and Wales	... 2,116
South Wales	... 2,981	South Wales	... 2,548
North Wales (highest)	... 3,277	North Wales (highest)	... 2,574
Worcestershire (lowest)	... 1,704	Worcestershire (lowest)	... 1,481
1881-90.		1891-1900.	
England and Wales	... 1,724	England and Wales	... 1,336
South Wales	... 2,038	South Wales	... 1,336
North Wales	... 2,377	North Wales	... 1,664
London (highest)	2,086	London (highest)	... 1,824
Huntingdonshire (lowest)	... 1,196	Huntingdonshire (lowest)	775

The annual death-rate from phthisis per 1,000 persons living in Cardiff during the years 1891-1900 is given below:—

TABLE XX.

Year.	Death-rate per 1,000.	Year.	Death-rate per 1,000.
1891	... 3·21	1891	... 2·75
1892	... 2·96	1892	... 1·82
1893	... 2·86	1893	... 1·68
1894	... 2·67	1894	... 1·32
1895	... 2·97	1895	... 1·67
1896	... 3·58	1896	... 1·38
1897	... 2·78	1897	... 1·99
1898	... 2·72	1898	... 1·32
1899	... 2·80	1899	... 1·32
1900	... 2·79	1900	... 1·25
1901	... 3·18	1901	... 1·05

During the ten years, 1891-1900, the total number of deaths from Phthisis in Cardiff amounted to 2,171, being equal to an annual average death-rate of 1·49 per 1,000 for that period.

Of the 2,171 deaths 452 or 20·0 per cent. occurred in the Cardiff Workhouse Infirmary.

During the past year a step in advance has been taken in connection with the prevention of Consumption by the formation of a branch for South Wales and Monmouthshire of the National Association for the Prevention of Consumption.

A public meeting was held on the 3rd October, in the Town Hall, Cardiff. The Mayor (Councillor Thomas Andrews, J.P.) presided, and the attendance was large, influential, and representative of the whole of South Wales. Over forty public bodies (County, Town and Urban Councils) were directly represented. Dr. Isambard Owen and Dr. Alfred Hillier attended the meeting on behalf of the Central Association. The following resolutions were adopted:—

- 1) That a Branch of the National Association for the Prevention of Consumption and other forms of Tuberculosis for South Wales and Monmouthshire be and is hereby formed.
 - 2) That an Executive Committee be appointed, to consist of members elected at the Annual General Meeting of the Branch; the President, Treasurer and Secretary to be *ex-officio* members of the Executive Committee.
 - 3) The following appointments were made for the ensuing year:—President, The Right Hon. Lord Windsor, together with a large number of Vice-Presidents; Treasurer, Major-General H. H. Lee, J.P.; Hon. Sec., Dr. Eldon Pratt.
- Several Sub-Committees were formed:—(1) Finance and General Purposes; (2) Educational; (3) Parliamentary.

The Association has no extensive executive powers, and its objects are chiefly directed towards the public in matters connected with the spread of tuberculosis, so as to enable the Association to assist and co-operate with public bodies, such as County Sanitary Authorities. In all probability the best practicable way of deriving full benefit from a system of voluntary notification of phthisis would be the establishment of a system of visits by properly instructed persons to the houses of the poorer classes in which the disease has occurred. Such health visitors would instruct the inmates in the measures for the prevention of the disease, which, after all, mainly consists in cleanliness. It is only necessary to pass through the streets occupied by the poor, and perhaps those occupied by persons who are not poor, to realise how completely the necessity for such a system.

It is a common thing even on a warm day to see all the windows in many of the houses closed. The Sanitary Authority can hardly be expected to employ a sufficient number of persons to go about the purely educational work of giving these people practical instructions in ventilation and cleanliness. Much, however, might be done by the combined action of Sanitary Authorities and the Association. The local branches might take upon itself the greater part of the work, possibly by devoting some of its funds towards the payment of health visitors, or possibly by establishing a voluntary system of district visiting. In any case the Sanitary Authorities would be in the position of being able to call the attention of the Officers of the Sanitary Authority to conditions which might require their interference. But before any action in this direction is taken, the Sanitary Authority must call upon the medical practitioners in the district to voluntarily, cases of phthisis under their care, as affording the best indication of the localities requiring visits. Some Medical Officers of Health, whose opinions are of great weight, have advocated a system of compulsory notification of phthisis, but whatever the advantages or disadvantages of this system, it is yet hardly ripe for discussion, as no Sanitary Authority is in a position to adopt it. Phthisis is not included amongst the diseases which are to be notified under the Infectious Diseases Notification Act, and although any Sanitary Authority may by resolution add certain diseases to the list, this can only be done with the consent of the Local Government Board, and as yet in no case has this consent been obtained. The reasons for this decision, or at any rate some of the reasons, are obvious. As phthisis comes under the operation of the Notification Act, it also comes under the provisions of the Infectious Disease Prevention Act, provisions which are of a very stringent nature, and which are totally inapplicable to persons suffering from phthisis.

It seems probable, that the majority of Medical practitioners are not in favour of compulsory notification of this disease—this, in itself, would make the adoption of any system of notification unworkable. The success of notification, as a means of preventing the spread of the disease, largely upon the cordial co-operation of the medical profession, and there is no chance of its being accorded to a compulsory system.

We must rely, therefore, upon information supplied voluntarily by medical practitioners. For every reason to believe that information will be readily supplied in all cases in which the action of the Sanitary Authority can usefully take action.

One of the most important objects which the National Association for Prevention of Consumption has in view, is the establishment through its branches of Open-air Sanatoria for phthisis patients. This again can be best accomplished by the co-operation of Sanitary Authorities with the Association.

For those who are able to pay for the excellent accommodation provided in the Sanatoria which are now established by private enterprise in many parts of the country, no charge is required. For the maintenance and treatment of pauper patients, Boards of Sanitary Authorities are responsible.

But for that large class of the community who can only contribute in a very slight manner, or perhaps cannot contribute at all towards the expenses of maintenance, some other arrangement must be made if they are to have the advantage of Sanatorium treatment. For such persons the expenses must either come out of the local rates, aided by such payments as the patients can make, or out of the Association alone, or in conjunction with Local Authorities. It is suggested that Administrative Counties can contribute under the Isolation Hospital Act, 1898, towards the expenses of Sanatoria for phthisis until this disease becomes notifiable under the Infectious Disease Notification Act.

Sanitary Authorities, such as County Boroughs, Urban and Rural District Councils, are empowered under Sec. 131 Public Health Act, 1875, to provide hospitals for the reception and treatment of persons suffering from any kind of sickness within their district, and may enter into agreement with hospital managers for that purpose. They could, therefore, contribute towards the expenses provided by the Association, and this would appear to be the best solution of the problem.

At the present time the Cardiff Corporation acting as the Sanitary Authority, carries out the following preventive measures with respect to the prevention of Tuberculosis:—(1) A compulsory notification of Phthisis by Medical Practitioners. Upon receipt of the notification a pamphlet containing simple directions for dealing with infectious material and a statement of the necessary precautionary measures to be adopted, is left at the house. In the event of a death occurring in a house a postcard is sent to the occupier offering disinfection of the premises and infected articles free of charge. A most important part of the work of the Sanitary Authority in connection with the prevention of consumption consists in the control of the meat and milk supply. With respect to the former it will be seen in another part of this report that the inspection of meat is carried on in this district in a very complete manner. During the year no less than 44 carcasses of animals intended for food were destroyed on account of tuberculosis. In each case the diagnosis of tuberculosis was confirmed, before condemnation, by a bacterial examination.

The Milk Supply has been kept under supervision, and all persons engaged in the milk trade have been required to comply strictly with the Dairies, Cowsheds, and Milkshops Order and bye-laws, and arrangements have been made with the Cardiff and County Public Health Authority for a systematic bacterial examination of the milk supply to the district. The collection of the sputum from persons suspected to be suffering from phthisis also forms a part of the work in the district. Notices have been issued, and are now being distributed, advising the public against spitting in such places, and has now under consideration the advisability of making a Bye-law forbidding, under a penalty, this dangerous and unpleasant practice.

NOTE.—The following Tables show the distribution of mortality from the several causes from deaths from diseases of the respiratory organs, and from other causes in the Borough during the year 1901:—

CENTRAL WARD.

REET.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Mar.	Phth.	Respiratory Diseases.	Other Causes.	Total.
Bridge Street	2	6
...	2	4
...	2	4
...	1
...	1
...	2	3
...	2	2
...	1	2
...	6	7
...	3	4
...	1	1
...	1	1
...	2	4
...	1	...	...	...	...	...	3	6
...	3	4
Terrace and Place	1	2
...	3	8
...	2
...	2	4
Crescent	4	4
...	1	1
...	1	3
...	1	3
...	2	2
...	1	1
...	1	...	...	...	...	3	5
...	3	5
...	2	5
...	1	1
...	5	8
...	1
...	6	10
...	2	2
...	2	2
...	1	1
...	2	3
...	1	3
...	2	1
...	1	1
...	2	5
...	2	3
...	2	2
...	4	9
...	3	4
...	2	2
...	2	2
...	2	3
...	1
...	12	17
...	1
...	4	5
...	1	...	...	...	...	2	3
...	1	2
...	1	1
...	1
Total...	1	1	1	2	8	14	121	195

CATHAYS WARD.

NAME OF STREET.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Marasmus.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Adams Road and Crescent	3	2	3
Adams Road	3	2	4
Adams Road	1	2	...	1	2	3	6	17
Adams Road	3	3
Adams Road	1	...	...	1	...	10	12
Adams Road	2	...	...	...	2	7	11
Adams Street	5	5
Adams Street	3	3
Adams Street	1	1	2
Adams Street	2	2	5
Adams Street	1	...	4	5
Adams Street	3	3
Adams Street	4	4
Adams Street	1	...	...	...	...	1
Adams Street	1	...	...	...	1	1	4
Adams Street	1
Adams Street	1	1
Adams Street	1	...	...	1
Adams Street	1	1	2
Adams Street	1	4	6
Adams Street and Place	3	...	...	...	1	3	8
Adams Street	1	1	3
Adams Street	3	3
Adams Street	1	2	3
Adams Street	1	...	...	...	...	...	...	1
Adams Street	3	...	2	...	1	5	11
Adams Road	5	5
Adams Road	1	...	...	...	...	...	2	3
Adams Road	3	4
Adams Street	2	...	...	...	...	2	5	9
Adams Road	1	2
Adams Road	2	...	...	...	...	1	4
Adams Road	4	5
Adams Road	1	1
Adams Road	5	6	11
Adams Road	1	...	2	3
Adams Road	1	1
Adams Road and Place	1	...	1
Adams Road	5	5
Adams Road	1	...	...	5	9
Adams Road	1
Adams Street and Place	1	...	5	7
Adams Street	1	2
Adams Street	1	...	...	...	...	10	13
Adams Road and Place	2	3	5
Adams Road	3	5	8
Total	5	10	1	7	7	47	100	221

ADAMSOWN WARD.

NAME OF STREET.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Adams Street	2	2
Adams Street	2	2
Adams Street	1	...	1	2	4
Adams Square and Place	1	...	...	...	...	...	1	1	2
Adams Street	1	1	2	4
Adams Street	2	2
Adams Street	1	1
Adams Street	1	...	1
Adams Place and Terrace	1	1	2
Adams Street	1	...	4	5
Adams Street and Place	1	...	...	...	...	...	1
Adams Street	1	...	...	...	3	3	7
Adams Street	1	1
Adams Street	1	1	2
Adams Street	4	3	7
Adams Street	1	2	3
Adams Street	1	...	1
Adams Street	1	...	2
Adams Street	3	4
Adams Street	5	2	7
Adams Place and Place	2	2
Adams Street	1
Adams Street and Place	2	2
Adams Street and Court	1	1
Adams Street	1	...	1
Adams Street	1	1
Adams Street	2	2
Adams Street	2	2
Adams Terrace and Gardens	2	...	...	...	...	2	4
Adams Street	1	...	1
Adams Street	1	...	...	2	3	2	6
Adams Street	1	...	...	...	...	2	2	5
Adams Street	1	4	72	77
Adams Street	1	1
Adams Street	1	1	2
Adams Street	1	1
Adams Street	1	1
Adams Street	1	...	...	...	...	...	...	1	2
Adams Street	1	1
Adams Margaret Terrace	1	1
Adams Street	2	2
Adams Street	1	...	...	1	...	1	1	4
Adams Street	1	...	1
Adams Street, Place, and Terrace	1	8	9
Adams Street	2	2	4
Adams Street	2	1	3
Adams Street and Place	1	2	3
Adams Street	1	...	2	1	4
Adams Street	7	7
Adams Street	1	...	...	...	...	1	2
Adams Street	2	2
Adams Street	1	2	1	4
Adams Street	2	2
Adams Street	1	1	...	2
Adams Street	2	2
Adams Street	1	1
Adams Street	1	1
Adams Street and Place	1	...	1	2	1	1	6
Adams Street	1	...	1
Adams Street	1	1
Adams Street	1	...	...	...	...	1	4	6
Adams Street	3	3
Adams Street	1	...	...	2	2	5

SPLOTT WARD.

CANTON WARD.

CANTON WARD—Continued.

NAME OF STREET.	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping Cough.	Fever.	Diarrhoea.	Phthisis.	Respiratory Diseases.	Other Causes.	Total.
Springfield Place	1	...	1	1	2	3	8
... Street	1	1
... Street	1	1
... Road	4	4
... Cottages	1	1
... Road	1	1
... Place	1	...	...	1	...	1	3
... Street	1	3	4
... Street	1	2	3
... Street	1	2	2	5
... Terrace	1	1
... Street	1	...	1
... Road	1	...	1
Total	2	6	8	...	10	14	59	176	275

RIVERSIDE W. RD.

FRAN EDDY WARD.



CARDIFF SANATORIUM.

The following Report of the Medical Superintendent shows that 1,177 cases were under treatment during the year, as compared with 800 during the year 1900:—

REPORT FOR THE YEAR 1901.		AGES.							Totals.
		0 to 5 years.	5 to 15 years.	15 to 25 years.	25 to 35 years.	35 to 45 years.	45 to 55 years.	55 to 65 years.	
I.—Remaining in Hospital on 31st December,									
Scarlet Fever	...	20	32	8	6	...	...	...	66
Enteric Fever	...	...	3	...	...	...	...	...	3
Diphtheria	...	16	35	...	4	...	...	...	55
Small Pox (Plague)	...	...	...	...	1	...	...	...	1
Total	...	36	70	8	11	...	...	...	125
II.—Admitted during the year ending 31st December 1901:—									
Scarlet Fever	...	161	396	72	12	3	...	...	644
Enteric Fever	...	1	12	21	12	5	1	2	54
Diphtheria	...	126	168	30	15	2	...	...	341
Small Pox	...	2	1	...	4	3	1	...	11
Measles	...	...	...	1	...	...	...	...	1
Plague	...	...	...	...	1	...	...	...	1
Total	...	290	577	124	44	13	2	2	1052
III.—Under treatment in 1901	...	326	647	132	55	13	2	2	1177
IV.—Of the above there were Discharged									
A.—Discharged:—									
Scarlet Fever	...	136	357	65	17	3	...	...	578
Enteric Fever	...	1	15	19	8	5	1	2	51
Diphtheria	...	111	182	27	15	2	...	...	337
Small Pox	...	2	1	...	4	2	1	...	10
Measles	...	...	...	1	...	...	...	...	1
Plague	...	...	...	...	2	...	...	...	2
Total	...	250	555	112	46	12	2	2	979
B.—Died:—									
Scarlet Fever	...	9	3	...	1	...	...	...	13
Enteric Fever	...	...	...	2	2	...	...	...	4
Diphtheria	...	18	12	...	...	...	...	...	30
Small Pox	...	...	...	...	...	1	...	...	1
Measles	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...
Other Diseases	...	3	...	2	...	...	...	1	6
Total	...	30	15	4	3	1	...	1	54
V.—Remaining in Hospital on 31st December,									
Scarlet Fever	...	36	68	15	...	...	...	...	119
Enteric Fever	...	...	...	...	2	...	...	...	2
Diphtheria	...	13	9	3	4	...	...	...	29
Small Pox	...	...	...	...	...	...	...	...	...
Measles	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...
Total	...	49	77	18	6	...	...	...	150
VI.—Under treatment in 1901	...	326	647	132	55	13	2	2	1177

per cent. under treatment :—

Scarlet Fever	...	...	...	1.83
Enteric Fever	...	...	...	7.0
Diphtheria	...	...	...	7.6
Small Pox	...	...	...	9.1

B. W. BROAD, M.B.,

Medical Superintendent.

LEWIS AND COUNTY PUBLIC HEALTH LABORATORY.

The following Tables show the work done in the Laboratory during the year 1901 :—

The Tables are extracted from the Annual Report to the Laboratory Joint Committee
 and signed by Dr. W. G. Savage.

TABLE I.

Specimens and Samples examined during 1901 :—

Suspected Diphtheria	...	...	...	391
Typhoid Fever (Serum-diagnosis)	...	...	...	122
Search for Tubercle Bacilli	...	...	...	197
Examination for Special Organisms :—				
for Anthrax, 2; Gonococcus, 16; Tetanus, 1)	...	...	...
Bacteriological Examination of Growths	...	...	...	10
Examination of Urine (Chemical, &c.)	...	...	...	38
,, (Bacteriological)	...	...	...	13
Examination of Milk for Pathogenic Organisms :—				
for Typhoid Bacillus, 9; for Diphtheria Bacillus, 8;				
Special Investigation, 21; General Examination, 3)	...	...	...	24
Disinfectant Meat	...	...	...	23
Pathological Fluids :—				
(for Chemical Poisons (Strychnine, 2; Phosphorus,				
1), 3; Pathological and Chemical Examination, 13;				
Pus for Tubercle Bacilli, 7)	...	...	...	2
Blood (Pathological Examinations)	...	...	...	1
Bacteriological Examination of Soil	...	...	...	1
Investigation of suspected cases of Plague	...	...	...	1
Specimens examined for Plague	...	...	...	21
—Investigation of effect of Danysz Bacillus	...	...	...	1
Other special examinations (e.g., Ice Cream for Typhoid				
Bacillus)	...	...	...	1
Drinking Water—Bacteriological Examination	...	...	...	100
,, Chemical Analysis	...	...	...	10
Sewage and Sewage Effluents	...	...	...	10
Total	...	...	...	1,523

From Table I. it will be seen that the total number of specimens examined was 1,523.
 The number of samples examined was 817. In Table II. the chief differences
 between the two years are shown.

During
 between

TABLE II.

Comparison between the specimens received in 1900-1901.

Nature of Examination.	1900.	1901.	Increase.
Suspected Diphtheria ...	243	391	148
.. Typhoid Fever ...	73	122	49
Specimen for Tubercle Bacilli ...	86	197	111
Water—Bacteriological Examination ...	119	282	163
Water—Chemical Analysis ...	193	250	52
Physiological Examination of Milk ...	12	41	29
Sewage Examination ...	11	26	15
Other Examinations ...	75	219	144
Total ...	817	1,528	711

As shown in Table II. there has been an increase of 711 specimens, indicating a wider appreciation of the value of the examination and a marked increase in the work done.

A mere numerical enumeration, though a valuable index of work done, cannot be taken as an accurate estimation owing to the great differences in the amount received by different officers and investigations. As Table II. shews, however, there has been an increase of very large amount of work.

In Table III. the results of the examinations in connection with the diagnosis of Diphtheria, Typhoid Fever, and the examination of Sputum for the Tubercle Bacillus are fully stated:—

TABLE III.

Nature of Examination.	No. of Positive Results.	No. of Negative Results.	Total.
Suspected Diphtheria ...	79	312	391
.. Typhoid Fever ...	62	60	122
Specimen for Tubercle Bacilli ...	88	109	197

The work done consists of work from Cardiff and from the Administrative County of Glamorgan, also some specimens from Swansea. Table IV. gives the number of specimens received from Cardiff and the County respectively. The samples from Swansea are included in the County figures.

In this table the results are divided into waters, including the drinking waters, the sewage and effluents, and specimens, the latter including all other examinations.

TABLE IV.

Source.	Waters Examined.	Specimens.	Total.
...	127	575	702
County ...	431	395	826
Total for 1901...	558	970	1,528

It is noticed that more specimens were received from Cardiff, but a considerably larger number of waters were examined from the County. This table, while it shows the number of specimens and waters examined for the two bodies, can afford only an approximate relative value of the institution to Cardiff and the County respectively. Thus the number of the systematic routine water examinations to the County is merely nominal, while, among other things, the extensive work involved in the investigation of cases of plague, the detection of an actual case, and the investigation of the origin of the disease among the rats, all work for the borough, is not brought out.

INSANITARY DWELLINGS.—Since the passing of the Housing of the Working Classes Act, a considerable amount of insanitary property has been dealt with under the Act. The provisions of this part of the Act give power to the Sanitary Authority or the Magistrates for a closing order against any house on the representation of the Medical Officer of Health that it is unfit for habitation.

If the premises are not put into a good sanitary condition, the Authority may recommend that it is expedient to order the demolition of the dwelling.

This order must be complied with within three months from the service of notice, in which the Authority must demolish the building, selling all material and paying the cost of erecting expenses, to the owner.

Amongst the dwellings which have been permanently closed, either by a closing order or voluntary action of the owner, during the preceding years and since the Act came into force the following may be mentioned:—

Mill Lane Court, 34 houses in Stanley Street, 12 houses in Leckwith Road, Kettle Court, Union Buildings, Sandon Court, Dalton Court, Gainors' Court, Rising Sun Court (Womanby Street), The Tunnel (Queen Street), Temperance Terrace, The Tunnel, St. Peter's Place and Masons' Arms Court. In the latter part of the year 1900, the report was submitted to your Health Committee upon the sanitary condition of a number of insanitary dwellings, and in the following year the Report was adopted and the work done with 134 houses, containing an aggregate of 331 rooms, and a total time of inspection amounting to 395 persons, and related to the following descriptions of houses:—

Name of Court.	No. of Houses.	No. of Rooms.	No. of Inhabitants.
Masons' Arms' Court	7	20	24
...	3	7	5
...	2	4	5
...	7	21	34
...	5	10	17
...	4	12	16
...	5	10	2
...	5	10	15

LIST OF COURTS—Continued.

Name of Court.	No. of Houses.	No. of Rooms.	No. of Inhabitants.
Castle Court	2	4	4
Castle Court	3	7	7
Castle Court	1	3	3
Castle Court Buildings...	4	10	10
Castle Court	2	8	8
Castle Court	2	6	5
Castle Court	2	4	4
Castle Court	6	13	13
Castle Court	2	4	—
Castle Court	4	12	14
Castle Court	5	12	12
Castle Court	4	10	9
Castle Court	6	15	20
Wendy Street Cottages	5	8	14
Castle Court	6	23	21
Castle Court	10	22	15
Castle Court	4	12	19
Castle Cottages	3	6	10
Castle Court	6	17	20
Castle Court	13	29	40

It shows that the largest of these Courts contained 13 houses, the majority of which were in the main street, and that the other premises were simply collections of two or three houses, the yard of some larger houses in the main street, and through which the Court was obtained. Insufficient ventilation and lighting and inadequate air space were common to them all. Many of the houses were without back yards or gardens, and many depended for their water supply upon one common tap in the Court.

The accommodation was found to be generally insufficient and defective, and the recommendations contained in the Report were that in the first application should be made to the Magistrates for closing orders with respect to some of the worst and most insanitary of these premises, and that the others should be dealt with subsequently, either in the same way or under the Nuisance Removal clauses of the Public Health Act. In this way no extensive displacement of people from their houses would take place. Application was accordingly made and closing orders were obtained with respect to the following premises:—Love Lane Court, Castle Court, Moulders' Arms Court, Bryant's Court, Moulders' Court, Harris Court, Stacey Court, and Picton Cottages.

With the view of ascertaining to what extent overcrowding of dwellings existed in the town, I commenced in the year 1900 a special inspection in order to discover the average number of occupants per room in each house visited. The results of this inspection, which was made by the District Inspectors, is given in the Report for that year. During the year 1901, the inspection has been continued, and the following Table gives the information obtained.

In order to define the meaning of overcrowding, and in practice, when dealing with such cases under the Public Health Act, each one has to be considered on its merit; but a standard which may serve for general purposes is that given in the Census Report of 1891, which proposed that tenements should be overcrowded when occupied by more than two persons per room.

The Report for the year 1900 showed that out of 1,790 houses examined, 24 or 1·3 per cent. exceeded this limit.

In the Report for the year under consideration 3,757 houses were examined. Of these 17·5 per cent. contained more than an average of two occupants per room. It is evident, therefore, that overcrowding exists to a very limited extent in Cardiff.

HOUSES IN SEVENTH WARD.

CENTRAL WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	...	17	1	...	...
...	...	15	1	...	...
...	...	14	1	...	...
...	...	13	1	...	...
...	...	13	2	...	...
...	...	12	1	...	...
...	10	11	1	...	...
...	4	10	1	...	...
...	5	9	1	...	...
...	3	8	1	...	...
...	...	8	2	...	...
...	...	7	1	...	...
...	...	9	1	...	...
...	...	8	1	...	...
...	...	7	1	1	...
...	...	6	1	...	3
...	3	5	1	...	...
...	30	4	1	1	...
...	...	4	2	1	...
...	...	2	1	...	...
...	30	7	1	...	...
...	6	7	2	...	...
...	2	6	1	...	...
...	...	6	2	...	...
...	3	7	1	...	...
...	6	6	1	...	...
...	...	6	2	...	2
...	...	5	1	...	...
...	5	6	1	...	2
...	...	5	1	...	...
...	...	5	1	...	...
...	...	3	1	...	...
...	...	7	1	...	...
...	...	6	1	...	...
...	...	12	1	...	...
...	...	9	1	...	...
...	...	8	1	...	...
...	...	5	1	...	...
...	...	7	2	...	...
...	...	7	1	...	...
...	6	6	3	...	...
...	13	6	2	...	...
...	16	6	1	...	...
...	...	4	3	...	...
...	...	4	2	...	...
...	...	4	1	1	...
...	...	10	1	...	...
...	...	6	2	...	...
...	...	6	1	...	...
...	...	5	3	...	...
...	...	5	2	1	...
...	14	5	1	...	...
...	...	4	2	2	...
...	...	4	...	...	...
...	...	3	3	...	...
...	...	3	2	...	...
...	6	6	1	...	...

CENTRAL WARD—Continued.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	1	8	3	...	1
...	1	7	3	...	1
...	3	7	2	...	1
...	6	7	1	...	3
...	5	6	2	...	1
...	13	6	1	...	2
...	2	5	2	...	...
...	1	4	2	...	1
...	3	4	1	...	1
...	1	7	2	...	1
...	15	7	1	...	4
...	4	6	2	...	3
...	21	6	1	...	6
...	13	5	1	...	1
...	2	4	1	...	1
...	3	3	1	...	2
...	2	2	...	...	...
Total ...	355	502	105	7	97

PARK WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	139	6	1	...	25
...	3	6	2	...	3
...	9	7	1	...	1
...	56	6	1	...	7
...	1	6	2	...	1
...	63	4	1	...	22
Total ...	276	25	8	...	59

RIVERSIDE WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	1	13	1	...	...
...	9	8	1	...	...
...	6	8	2	...	3
...	1	8	3	...	1
...	32	7	1	...	7
...	8	7	2	...	3
...	1	7	3	...	...
...	34	6	1	...	1
...	2	6	2	...	...
Total ...	64	70	16	...	17

SPLOTT WARD.

STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	4	7	1	...	3
...	2	7	2	...	...
...	178	6	1	1	50
...	68	6	2	1	42
...	2	6	3	...	2
...	33	5	1	...	10
...	1	7	1	...	1
...	3	6	1	...	...
...	1	9	1	...	...
...	26	7	1	...	12
...	5	7	2	...	1
...	39	6	1	...	9
...	35	6	2	...	10
...	25	6	1	...	11
...	46	6	2	...	36
...	5	6	3	2	3
...	55	6	1	...	19
...	15	6	2	...	8
...	23	6	1	...	11
...	12	6	2	...	7
...	573	127	31	4	235

GRANGETOWN WARD.

STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
Penwood	18	7	2	...	9
...	18	7	1	...	5
...	22	6	2	...	8
...	24	6	1	...	6
Am	9	7	1	...	7
...	21	7	2	...	11
...	5	6	1	...	...
...	7	6	2	...	7
Newport	16	6	1	...	8
...	10	6	2	...	8
Kent	15	7	1	...	1
...	15	7	2	...	10
...	16	6	1	...	4
...	18	6	2	...	13
Earl	4	7	1	...	1
...	17	7	2	...	22
Greenfield	13	6	1	...	4
...	13	6	2	...	9
Ladlow	17	7	1	...	5
...	7	7	2	...	4
Bradford	15	6	1	...	5
...	10	6	2	...	7
...	310	112	33	...	144

ADAMSDOWN WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	16	6	1	...	10
...	5	6	2	...	3
...	1	5	1	...	...
...	10	7	2	...	6
...	10	7	1	...	5
...	...	6	3	...	...
...	...	6	2	...	1
...	...	6	1	...	1
...	...	6	2	...	1
...	10	6	1	...	3
...	1	5	2	...	1
...	1	5	1	...	3
...	1	8	1	...	1
...	1	7	3	...	1
...	2	7	2	...	2
...	2	7	1	...	1
...	...	6	3	...	...
...	...	6	2	...	2
...	...	6	1	...	...
...	...	6	2	...	...
...	...	6	1	...	1
...	3	5	2	...	3
...	...	5	1	...	1
...	3	4	1	...	1
...	...	3	1	...	...
...	1	6	1	...	...
...	3	4	1	...	2
...	1	6	1	...	1
...	5	4	1	...	3
...	1	20	8	...	...
...	3	12	1	...	...
...	1	10	4	...	1
...	...	10	3	...	...
...	1	9	6	...	1
...	2	9	5	...	2
...	1	9	4	...	1
...	1	9	3	...	...
...	2	9	1	...	...
...	1	8	6	1	...
...	2	8	5	...	2
...	1	8	3	...	1
...	3	8	2	...	2
...	2	8	1	...	...
...	1	7	1	...	1
...	2	7	3	...	3
...	5	7	2	...	3
...	...	7	1	...	1
...	...	6	2	...	1
...	3	6	1	...	...
...	1	6	1	...	1
...	3	5	2	1	2
...	...	5	1	...	...
...	1	4	1	...	1
...	4	3	1	...	3
...	...	2	1	2	...
...	...	4	1	...	...
...	...	4	1	...	...
...	3	7	2	...	2
...	...	7	1	...	2
...	...	6	2	...	6
...	...	6	1	...	8
...	...	4	1	...	...
...	...	3	2	...	...
...	...	6	3	...	...
...	...	6	2	...	3

ADAMSDOWN WARD—Continued.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	11	6	1	...	5
...	1	5	3	1	...
...	1	5	2	...	1
...	2	5	1	...	1
...	2	4	3	...	1
...	2	4	2	...	2
...	3	4	1	...	2
...	2	4	1	...	1
...	1	9	1	...	...
...	3	7	3	...	3
...	6	7	2	...	4
...	6	7	1	...	3
...	5	6	2	...	3
...	2	6	1	...	1
...	1	5	1	...	...
...	4	4	1	...	2
...	8	7	1	...	...
...	5	6	1	...	1
...	21	4	1	...	5
...	11	7	2	...	5
...	6	7	1	...	1
...	1	6	3	...	1
...	2	6	2	...	1
...	5	6	1	...	1
...	1	8	2	...	...
...	1	6	4	...	...
...	6	6	2	...	5
...	17	6	1	...	7
...	1	3	1	...	...
...	369	593	181	5	159

CANTON WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	3	7	1	...	...
...	23	6	1	...	6
...	11	6	2	...	7
...	1	8	1	...	...
...	37	7	1	...	5
...	12	7	2	...	5
...	43	6	1	...	5
...	3	6	2	...	...
...	1	5	1	...	...
...	1	6	4	...	...
...	13	6	2	...	9
...	23	6	1	...	8
...	9	6	2	...	8
...	35	6	1	...	16
...	10	6	2	...	9
...	29	6	1	...	12
...	12	6	2	...	8
...	32	6	1	...	5
...	1	5	2	...	1
...	9	5	1	...	4
...	1	5	2	...	1
...	20	5	1	...	6
...	329	132	54	..	115

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	Number of Houses.	Number of Rooms per House.	Number of Tenants per House.	Number houses with less than two occup. per room.	Number houses with more than two occup. per room.
...	1	7	...	...	1
...	33	6	...	...	11
...	26	6	...	1	19
...	19	5	...	...	9
...	3	5	...	...	3
...	1	7	...	...	...
...	42	6	...	...	7
...	33	6	...	...	20
...	3	5	...	...	1
...	1	10	...	...	...
...	1	9	...	...	...
...	7	6	...	...	2
...	4	4	...	...	2
...	12	6	...	...	2
...	2	6	...	...	...
...	10	4	...	...	3
...	2	2	...	...	...
...	1	7	...	...	1
...	1	7	...	...	1
...	16	6	...	...	6
...	5	6	...	...	3
...	2	5	...	...	...
...	25	4	...	...	16
...	1	8	...	...	...
...	3	6	...	...	2
...	14	6	...	...	3
...	1	4	...	...	1
...	69	7	...	...	11
...	1	7	...	...	1
...	1	7	...	...	...
...	1	6	...	...	1
...	19	6	...	1	9
...	38	6	...	...	7
...	2	5	...	...	2
...	25	5	...	1	10
...	2	4	...	...	...
...	1	10	...	...	...
...	4	9	...	...	...
...	1	8	...	...	...
...	24	8	...	...	1
...	13	7	...	...	6
...	64	7	...	...	12
...	3	6	...	...	2
...	13	6	...	...	3
...	550	273	6	3	17

SOUTH WARD.

NAME OF STREET.	Number of Houses.	Number of Rooms per House.	Number of Tenants per House.	Number of Houses with more than an average of two occupants per room.	Number of Houses with more than an average of one occupant per room.
...	5	7	1	...	...
...	5	7	2	...	...
...	5	6	1	...	...
...	2	6	1	...	...
...	6	7	1	...	...
...	2	7	2	...	2
...	1	7	3	...	...
...	10	5	1	...	2
...	2	5	1	...	2
...	1	10	1	...	...
...	1	8	1	...	...
...	9	7	1	...	...
...	4	7	2	3	...
...	1	7	3	1	...
...	15	6	1	3	3
...	11	6	1	...	...
...	1	6	3	1	...
...	1	12	1	...	...
...	1	10	1	...	...
...	1	8	1	...	...
...	2	7	1	...	...
...	6	7	1	...	...
...	1	6	1	...	...
...	16	6	1	...	5
...	5	7	2	...	...
...	12	7	1	...	...
...	1	7	1	...	...
...	5	6	1	...	...
...	20	6	1	...	5
...	1	12	2	...	...
...	1	6	1	...	...
...	7	7	1	...	...
...	9	7	1	...	...
...	10	6	1	...	...
...	18	6	1	...	...
...	1	5	1	...	...
...	1	9	1	...	...
...	5	5	1	...	...
...	5	7	1	...	...
...	12	7	1	...	...
...	5	6	1	...	...
...	1	5	1	...	...
...	2	5	1	...	...
...	2	4	1	...	...
...	1	7	1	...	...
...	2	6	1	...	...
...	8	4	1	...	...
...	5	5	1	...	...
...	247	827	71	8	40

NORTH WARD.

		Number of Houses.	Number of Rooms per House.	Number of Tenements per House.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	...	...	6	1	...	...
...	...	14	6	2	1	10
...	...	46	6	1	...	13
...	...	23	6	2	1	1
...	...	2	6	3	...	2
...	...	28	6	1	...	...
...	...	...	6	2	...	...
...	...	1	8	1	...	...
...	...	2	4	1	...	2
...	...	33	6	1	...	13
...	...	29	...	2	1	2
...	...	1	...	3	...	1
...	...	8	6	1	...	1
...	...	8	4	...	...	...
...	...	24	6	1	...	1
...	...	22	4	1	...	9
...	...	3	6	1	...	...
...	...	43	4	1	...	20
...	...	5	6	2	...	3
...	...	38	6	1	...	8
...	...	1	4	1	...	...
...	...	2	6	2	...	...
...	...	41	6	1	...	11
...
...	...	9	...	2	...	...
...	...	27	6	1	...	14
...	...	15	6	...	...	10
...	...	23	6	1	...	16
...	...	...	6	2	...	6
...	...	...	6	1	...	11

SUMMARY OF HOUSES IN TABLES.

WARDS.	Number of Houses.	Number of Houses with more than average of two occupants per room.	Number of Houses with more than average of one occupant per room.
...	355	7	97
...	276	0	59
...	94	0	17
...	634	3	239
...	573	4	235
...	550	3	178
...	330	0	144
...	247	8	46
...	369	5	159
...	220	0	115
...	3,757	30	1,289

INSPECTION OF WORKSHOPS.—A very important duty devolves upon Sanitary Authorities the supervision of the conditions, relating to health, under which persons engaged in workshops carry on their daily work. The Factory and Workshop Act, 1901, makes considerable alterations in, and additions to, the duties hitherto falling upon Medical Officers of Health. The Act consolidates and amends all previous Acts relating to Factories and Workshops, and contains several altogether new clauses.

The following complete report of the Town Clerk upon this Act, which has already been published, contains the following concise account of the provisions relating to

sec. 132 of the Act of 1901, the Medical Officer of Health is required, in his annual report, to deal specifically with the administration of the Act (so far as the matters relating to the Sanitary Authority are concerned), and to send a copy of this Report to the Local Board of Health.

The work carried out during the year 1901 is shown in the subjoined tables.

FACTORIES.

In the case of factories : (1) every factory is exempted with the duty of a fire escape, and every factory is provided with means of escape in case of fire; and also has special sanitary regulations for domestic factories and underground bakehouses. These duties apply also in the case of workshops, and will be further referred to below. Another duty in regard to factories is the requirement in sec. 22 of the Public Health Acts Amendment Act, 1900, that every factory shall be provided with suitable and sufficient sanitary conveniences.

WORKSHOPS AND WORKPLACES.

In the case of workshops and workplaces, District Councils have important duties, which are brought under four heads: (1) the sanitary condition of workshops and workplaces; (2) the provision of means of escape from fire; (3) special sanitary regulations for bakehouses; and (4) the provision of sanitary conveniences.

Sanitation (secs. 2, 3, 7 and 8 of Act).

The Local Board of Health is made the authority responsible for the sanitary condition of the workshops and workplaces in its district, while the Factory Inspector is responsible for the sanitary condition of factories. "Sanitary conditions" include (a) the cleanliness, (b) air space, and (c) drainage of the floors of workshops and workplaces. For these purposes the provisions of the Public Health Act, 1875, apply and are supplemented by additional provisions of the Factory Act. The other sanitary provisions in Part I. of the Act, viz., with regard to the provision of sanitary conveniences (secs. 6 and 9) are not brought under the law relating to the health, and will therefore be enforced by the Factory Inspector and not by the Local Board of Health.

The provisions of the Act in the matters above-mentioned, which it is the duty of a Sanitary Authority to enforce, are as follows:—

Sec. 2. (sec. 2).—Every workshop and workplace must be kept in a cleanly state, and if not so kept may be dealt with by the Council as a nuisance under the Public Health Act, 1875.

Sec. 3. (sec. 3).—If the Medical Officer of Health, or the Inspector of Nuisances, certifies that it is necessary for the persons employed that a *workshop*, or any part of a workshop, should be washed or purified, the Council may give notice to the owner or occupier of the workshop to carry out such limewashing, cleansing or purifying as the case may require, within the time specified in the notice. If the person to whom the notice is addressed fails to comply with the notice, he will be liable to a penalty of 10s. for each day during which the work is not done, and the Council may themselves undertake the work and recover the expenses thereof.

Sec. 7. (sec. 7).—Every workshop and workplace must be kept in a cleanly state.

(b) *Air Space* (secs. 2, 3).—Workshops and workplaces must not be overcrowded while in use so as to be dangerous or injurious to the health of the persons employed, and any workshop or workplace which is overcrowded may be dealt with as a nuisance under sec. 91 of the Public Health Act. A *workshop* is deemed to be overcrowded unless in each room at least 100 cubic feet of air space (or during overtime 400) are allowed for each person employed in the room, and the Act requires a notice to be affixed in the workshop specifying the number of persons who may be employed in each room of the workshop. In the case of a workshop not used as a workshop, which is occupied by night as a sleeping apartment, the Secretary of State may by order alter this amount—3 (3).

(c) *Ventilation* (sec. 2).—Every workshop and workplace must be ventilated in such a manner as to render harmless as far as practicable any gases, vapours, dust or other impurities produced in the course of the work that are a nuisance or injurious to health. Any workshop or workplace not so ventilated may be dealt with as a nuisance under sec. 91 of the Public Health Act.

This general provision is supplemented in the case of workshops by a special requirement introduced for the first time by the Act of 1901 (sec. 7) that in every room in a workshop certain means of ventilation must be provided and sufficient ventilation maintained, and where a standard of sufficient ventilation has been prescribed by the Secretary of State for any class of workshops, that standard must be observed. Workshops, however, *where men only are employed* are excluded from the operation of this requirement. Any workshop where this requirement is not observed may be dealt with as a nuisance.

(d) *Drainage of floors* (sec. 8).—A provision introduced for the first time by the Act of 1901 requires that in every workshop or part of a workshop in which any process is carried on which renders the floor liable to be wet to such an extent that the wet is capable of being injurious to health, adequate means shall be provided for draining off the wet. A workshop in which this requirement is not observed may be dealt with as a nuisance under sec. 91 of the Public Health Act. This provision, however, does not apply to workshops in which men only are employed.

(e) *Sanitary accommodation*.—Every building used as a workshop or manufactory, or where persons are employed or intended to be employed in any trade or business, must be provided with sufficient and suitable accommodation in the way of sanitary conveniences (sec. 22). If a report from the surveyor that this requirement is not observed in the case of any building, the Council may serve a written notice on the owner or occupier requiring him to make such alterations or additions as may be required for the purpose.

(iii.) *Bakehouses.* (Secs. 97—102).

Bakehouses are either factories or workshops within the meaning of the Act according as mechanical power is or is not used in aid of the processes carried on. They are, therefore, subject to the general provisions of the Act; and the same provisions which are exercised in regard to bakehouses that are exercised by them in regard to factories and workshops.

A general power is also given to the Council in the case of any bakehouse which is in a state to be on sanitary grounds unfit for use or occupation as a bakehouse to bring the matter before a court of summary jurisdiction; and the Court may thereupon impose a fine of £2 for the first offence or £5 (if a subsequent offence), and, either in addition to or in lieu of imposing a fine, may cause to be adopted for the purpose of removing the ground of complaint—(secs. 97, 98).

In addition to the general regulations of the Act, special sanitary regulations for bakehouses are contained in the Act. These regulations (sec. 97) require that—

(a) A bakehouse must not contain or communicate directly with a water closet, earth closet, or latrine; a cistern supplying water to a bakehouse must be separate from any cistern supplying water to a water closet; and a sewage pipe or drain must not have any opening into a bakehouse. The penalty for any contravention is a fine not exceeding £2 both on the owner and on the person letting or suffering the bakehouse to be occupied, and a further fine not exceeding 1s. for each day of continued contravention.

inside walls and ceilings of rooms and all passages and staircases must be lime-washed every six months, or coated with three coats of paints or varnish every seven years, and washed with water and soap every six months; if not, the bakehouse will be deemed not to comply with the Act—99 (1).

Any person on the same level with a bakehouse and forming part of the same building as the sleeping places unless effectually separated from the bakehouses by a partition and provided with an external glazed window 9 square feet, of which 4 feet must be open:—for a first offence a penalty of £1 and for a second or subsequent offence a fine of £5 may be imposed both on the person occupying and on the person letting or suffering the place to be occupied—(100).

These regulations will in the case of all *retail* bakehouses be enforced by the Council; the word "retail" meaning any bakehouse or place in which no mechanical power is used, and in which breads, buns, or confectionery baked in which are sold not wholesale, but by retail, in any place occupied with the bakehouse. The medical officer of health is, for the purpose, given all the powers of entry, inspection, taking legal proceedings, and otherwise of a public health officer.

Further new duties are placed by sec. 101 of the Act on Councils in regard to underground bakehouses:—

The Act provides generally that no underground bakehouse shall be used as such after the 17th August last: this provision it will be the duty of the Council to enforce in the case of retail bakehouses.

However, after 1st January, 1904—that is, after a period of two years from the coming into force of the Act—it will not be lawful to use any underground bakehouse (whenever the Council are satisfied that it is suitable for the purpose in regard to ventilation, and in all other respects, and have given it a certificate of approval). This provision will apply to all bakehouses, whether wholesale or retail.

Any bakehouse will be deemed an underground bakehouse if any room used for baking, or incidental thereto, is so situate that the surface of the floor is more than 3 feet below the surface of the footway of the adjoining street, or of the ground adjoining or nearest to the street.

Any underground bakehouse used in contravention of these provisions will be deemed to be a nuisance and kept in conformity with the Act.

(iv.) *Home Work.* (Secs. 107—115).

Power of controlling the conditions under which certain classes of work are done in the case of the workers are given to Borough Councils by the Act of 1901. These powers aim at the regulation of home work being done (1) in dwellings which are injurious or dangerous to the health of the workers themselves, *e.g.*, through overcrowding, want of ventilation, or other insanitary conditions; (2) in premises where there is dangerous infectious disease.

The provisions of the Act are as follows:—

Unwholesome dwellings.—If any place in which home work is being done in connection with the business of a factory or workshop is injurious or dangerous to the health of the workers employed there, the Council may, by notice to the occupier of the factory or workshop, or to any person employed by such occupier, prohibit him from giving out work to be done in such place—(sec. 108).

The power may be exercised also in the case of work given out from places other than factories or workshops, *e.g.*, laundries, warehouses, shops, &c.—108 (2).

The power does not apply to all classes of home work, but only to those which may be specified by the Secretary of State. The classes of work in regard to which the power may be exercised by the Council have been fixed by order dated 11th December, 1901, as follows:—

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The making, cleaning, washing, altering, ornamenting, finishing, and repairing of wearing apparel, and any work incidental thereto;
 The making, ornamenting, mending, and finishing of lace, and of lace curtains and nets;
 Cabinet and furniture making, and upholstery work;
 The making of electro-plate;
 The making of files; and
 Fur-pulling.

2 Infected dwellings.—If any inmate of a house in which home work is done is found to be suffering from any infectious disease which is required by law to be notified to the local authority, the Council may, whether such inmate has been removed from the house or not, by order served on the occupier of any factory, workshop, or other place from which work is given out, or on any person employed by such occupier, prohibit him from giving out such work to any person or from working in the house during such time as the Council may fix. In an emergency, the power may be exercised by any two or more members of the Council acting on the advice of the Medical Officer of Health—(sec. 110).

This power does not apply to all classes of work, but only to such as the Secretary of State may fix. The classes of work in regard to which the power may be exercised have been fixed by order dated 11th December, 1901, as follows:—

The making, cleaning, washing, altering, ornamenting, finishing, and repairing of wearing apparel, and any work incidental thereto;
 The making, ornamenting, mending, and finishing of lace, and of lace curtains and nets;
 Upholstery work; and
 Fur-pulling.

In order that the Council may be kept fully informed as to the places in its district in which home-work is being done, occupiers of factories, workshops, or any place from which work is given out, and contractors employed by such occupiers are required, in regard to such classes of work as may be fixed by the Secretary of State, to keep lists showing the names and addresses of persons employed by them, either as workmen or as contractors outside such place, workshop, or place, and the place where they are employed, and to send to the Council on or before the 1st February and the 1st August copies of such list—sec. 107 (1).

In the event of any occupier failing to keep or to send such lists he will be liable to a fine of £5 for the first offence, and to a fine of £5 for a second or subsequent offence. Proceedings to recover the fine may be taken by the Council—107 (5).

It will be the duty of the Council to have the lists so sent to them examined, and if the place of employment of any outworker included in the list is in another district, to furnish his name and place of employment to the Council of that district—107 (2).

The list required to be kept by the occupier or contractor will be open to inspection by any duly authorised officer by the Council; and the Copies sent to the Council, and any particulars referred to it by another Council, will be open to inspection by any of the Inspectors of Factories and Workshops—107 (3).

The classes of work to which these provisions apply have been fixed by order dated by the Secretary of State on 11th December, 1901, so as to include all those that have been fixed by him in regard to (1) and (2) above, as follows:—

The making, cleaning, washing, altering, ornamenting, finishing, and repairing of wearing apparel, and any work incidental thereto;
 The making, ornamenting, mending, and finishing of lace and of lace curtains and nets;
 Cabinet and furniture making and upholstery work;
 The making of electro-plate;
 The making of files;
 Fur-pulling.

It is very important that the Council should be kept supplied with the proper lists, and it suggests that public notice of the provisions of sec. 107 should be given by means of posters.

DOMESTIC FACTORIES AND WORKSHOPS.

It seems as it will be found that dwellings in which homework is done will constitute a workshop, in consequence of the employment by the occupier of the dwelling, or of persons on work which comes within the definitions in the Act. Such places are subject to the ordinary provisions of the Act with regard to factories and workshops. An exception is made for dwellings in which no mechanical power is used and the only persons employed are members of the same family dwelling there. These places (termed in the Act "Domestic Factories" and "Domestic Workshops") are exempted from many of the provisions of the Act—(sec. 111).

Domestic factories are exempted from the provisions in the Act as to the sanitation of factories, but are made subject only, so far as sanitary conditions are concerned, to the provisions of sec. 112 of the Act, i.e., if not kept in a cleanly state, or not ventilated in such a manner as to prevent, as far as practicable, any gases, vapours, dust, or other impurities generated in the work that are a nuisance or injurious to health, or so overcrowded while work is being carried on as to be dangerous or injurious to the health of the workers, it is liable to be dealt with as a factory. A factory, however, shall not be deemed to be overcrowded unless in each room at least 250 cubic feet of space is available for each person employed. These provisions will be enforced by the Council.

Domestic workshops are exempted from the special provisions as to means of ventilation and lighting of floors, but are otherwise, as far as sanitary conditions are concerned, to be treated as factories—sec. 111 (2).

Domestic workshops in which work is only done at irregular intervals and does not form a principal means of living to the family, or in which certain classes of work (such as glove-making and glove-making) are carried on are wholly exempt, except in so far as they come within the term "workplace"—(sec. 112).

A domestic factory and workshop, however, in which any work is carried on that has been declared by the Secretary of State as dangerous, is subject to all the provisions of the Act as to a factory or workshop—(sec. 112).

ADMINISTRATION.

Duties of Borough Council.—For the purpose of their duties with respect to workshops and workplaces, the Act, and under the Public Health Acts, the Borough Council and their officers shall have the same powers of entry, inspection, taking legal proceedings, or otherwise as a local authority possesses (sec. 129). The powers of an Inspector as contained in sec. 119 of the Act include the power to enter, inspect, and examine, to take a constable in cases in which it is reasonable to apprehend any serious obstruction, to examine the persons found therein, to require the production of documents, &c.

Duties of Inspector of Workshops.—The Act places a duty on every Borough Council to keep a register of all workshops situated within its district (sec. 131). To assist the Council in preparing such a register, the Town Clerk understands that instructions have been given to the Factory Inspector to allow the District Council to make copies of the register of workshops kept by the Inspector, and the Council will continue to receive (sec. 127) from the Inspector any notices of new workshops which may be sent to him.

Duties of Medical Officer of Health.—Under sec. 132 of the Act, the Council's Medical Officer is required for the future in his Annual Report to the Council to report on the administration of the Act in workshops and workplaces so far as the matters which are of the Council are concerned, and to send a copy of his report on the subject to the Secretary of State. The matters which the report should specially deal with will be the matters of ventilation, lighting, and homework.

It is also the duty of the Medical Officer, if he finds any woman, young person, or child employed in a workshop in which no abstract of the Act is posted up, to inform the District Inspector of Factories in writing.

It will be seen that having regard to the numerous sanitary provisions of the Act and the new duties it imposes on Councils, it will add considerably to the work of the Medical Officer of Health.

Matters referred to Council by Factory Inspectors.—The Factory Inspector will, on finding in a factory or workshop, any act, neglect, or default in relation to a drain, water-closet, privy, ash-pit, water supply, nuisance, or other matter which is punishable or enforceable under the Public Health Acts but not under the Factory Act, give notice to the Council of such act, &c.; and it will then be the duty of the Council to make enquiries into the matter, and to take such action as may seem proper, and inform the Inspector of the proceedings taken. If no proceedings are taken by the Council within one month, the Inspector is authorised to take such proceedings as the Council might have taken, and to recover from the Council the expenses incurred by him which have not been recovered from any other person, and have not been paid in any unsuccessful proceedings—(sec. 5).

The Inspector may take similar action for the purpose of enforcing in a factory or workshop the provision of means of escape in case of fire—sec. 14 (5).

In the event of a Council failing generally to carry out the provisions of the Act and the Public Health Acts with regard to factories, workshops, and workplaces, the Secretary of State may empower a Factory Inspector during such time as he may fix to enforce those provisions. Any Inspector so authorised will be entitled to recover from the Council any expenses incurred by him, and to recover from any other person—(sec. 4).

General.—It is provided that the powers conferred by the Act on Councils shall be in addition and not in substitution for any other power which they may possess.—(sec. 155).

INSPECTION OF FACTORIES AND WORKSHOPS.

UNDER THE FACTORY AND WORKSHOP ACTS, 1878-95, AND THE SHOP HOURS ACT, 1892-95.
AND THE SEATS FOR SHOP ASSISTANTS ACT, 1899.

During the year a large number of workshops have been inspected. The results of these inspections are given in the annexed Tables :—

Nature of Workshops Inspected.		Number on Register.	Number of Inspections.
Bakers and Sugar Boilers	...	184	703
Tailors	...	176	578
Dressmakers	...	196	344
Milliners	...	51	80
Bootmakers	...	65	152
Carpenters and Joiners	...	39	93
Laundries	...	19	77
Bottlers	...	28	69
Wheelwrights and Smiths	...	23	65
Printers and Bookbinders	...	14	63
Peckers	...	21	29
Cabinet Makers and Upholsterers	...	32	46
Basket, Blind, and Mat Makers	...	8	41
Picture Frame Makers	...	15	39
Ice Factory	...	1	1
Hose Manufacturers	...	3	2
Engravers and Jewellers	...	8	8
Tobacco Manufacturers	...	4	6
Wine Manufacturers	...	1	2

INSPECTION OF FACTORIES AND WORKSHOPS—*Continued.*

Machine Workers	...	...	12	...	8
Machine Workers	...	...	11	...	1
Tile Manufacturers	...	...	2	...	1
Machine Manufacturers	...	...	8	...	4
Master Plumbers	...	...	3	...	4
Painting Dockers	...	...	4	...	5
Engine and Machine Manufacturers	...	...	15	...	29
Engineers and Electricians	...	...	18	...	15
Painters	...	...	14	...	3
Carp Works	...	...	1	...	1
Wagon Works	...	...	2	...	3
Blacksmiths	...	...	1	...	1
Painters	...	...	1	...	2
Total	...	...	<u>980</u>		<u>2,475</u>

Number of New Workshops from Inspector of Factories under Factory Act, 1891, Sec. 2, Factory Act, 1895, Sec. 41 = 39.

Number from Inspector of Factories *re* Sanitary Defects in Workshops, Sec. 4, Factory Act, 1895 = 17.

Number sent by Sanitary Authority to Inspector of Factories under Sec. 3, Factory and Workshops Act, 1891 = 11.

Number sent by Sanitary Authority to Inspector of Factories *re* Overworking in Workshops = 5.

SHOP ACT.

NATURE OF SHOPS INSPECTED.				Number of Inspections.	Employing Young Persons.	Employing Females.	Seats Provided.
...	...	...	...	275	238	265	265
...	...	...	...	123	100	95	95
...	...	...	...	232	239	12	12
...	...	...	...	184	141	...	...
...	baconists	...	...	175	136	94	94
...	stationers	...	...	106	76	72	72
...	...	...	...	116	61	104	104
...	...	...	...	148	81	134	134
...	...	...	...	41	32	2	2
...	...	...	...	132	85	51	51
...	...	...	...	43	38	4	4
...	...	...	...	9	6	1	1
...	...	...	...	54	42	3	3
...	...	...	...	24	17	3	3
...	...	...	...	37	27	31	31
...	...	...	...	2	2	...	...
...	...	...	...	4	3	2	2
...	...	...	...	55	28	55	55
...	...	...	...	4	3	...	...
...	...	...	...	2	2	...	...
...	...	...	...	2	...	...	...
...	...	...	...	1,823	1,326	928	928

PRESERVATIVES IN FOOD.—Owing to certain legal and technical difficulties there has been considerable variety amongst Sanitary Authorities in the method of dealing with foods to which chemical preservatives have been added.

In consequence of the difficulties surrounding the question a Departmental Committee on Food and Drink was appointed in July, 1899, to inquire whether the use of preservatives and colouring matters in food in certain quantities is injurious to health, and if so, in what quantities their use becomes injurious. The Committee has quite recently issued its Report, which is of great value as a guide to future action under the Sale of Food and Drugs Acts. One of the recommendations of the Report which deals with milk is of particular value, as it contains a recommendation to prohibit entirely the use of preservatives or colouring matter in milk. The Committee has also stated that it is quite possible to carry on the milk trade without these added substances. The Report also recommends the prohibition of the use of Formaldehyde in articles of food, and that Salicylic Acid should not be used in larger proportion than one grain in a pint of milk. It also states that in the case of cream, butter, and margarine only boric acid or borate of soda may be permitted, and these only in quantities not exceeding quarter per cent. in cream, and half per cent. in butter or margarine. In all cases when these substances are used their names and quantities to be distinctly marked. The Report also contains the recommendation that a Board of Reference should be established, to exercise supervision over the use of preservatives and colouring matters in foods, and to prepare schedules of such as may be permitted to be used to the public health.

FOOD REGULATIONS, 1901.—These Regulations for the first time fix a standard in the case of milk, and an important guide to Local Authorities in their dealing with the Sale of Foods and Drugs Acts.

The Regulations were made by the Board of Agriculture under the powers conferred by the Sale of Food and Drugs Act, 1900, and came into force on the 1st September, 1901. They are as follows:—

- (1) Where a sample of milk (not being sold as skimmed or separated or condensed milk) contains less than 8 per cent. of milk-fat, it shall be presumed, for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-fat or the addition thereto of water.
- (2) Where a sample of milk (not being sold as skimmed or separated or condensed milk) contains less than 8·5 per cent. of milk-solids other than milk-fat, it shall be presumed, for the purposes of the Sale of Food and Drugs Act, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.
- (3) Where a sample of skimmed or separated milk (not being condensed milk) contains less than 2 per cent. of milk-solids, it shall be presumed, for the purposes of the Sale of Food and Drugs Acts, 1875 to 1899, until the contrary is proved, that the milk is not genuine, by reason of the abstraction therefrom of milk-solids other than milk-fat, or the addition thereto of water.

The subjoined Table gives the average percentage composition of genuine cows' milk, deduced from the results of a very large number of analyses.

From this it will be seen that the limits fixed by the Regulations are by no means high, and it is pointed out in the Memorandum of the Board of Agriculture, that the limits below which the presumption is raised that the milk is not genuine were necessarily fixed at figures lower than which are usually afforded by genuine milk, in which the proportion of milk-fat and milk-solids very frequently exceeds the percentage specified.

Attention is also called to the fact that there may occasionally be cases in which a sample of genuine milk may fall below these limits, and that in such cases it is advised that the Inspector should give the vendor the opportunity of making an explanation, and that if the explanation is one they are able to accept, they might, in the exercise of their discretion, dispense with further proceedings. In such cases it is advised also that further samples should be taken in order that a satisfactory conclusion as to the character of the milk may be arrived at.

Average composition by weight of Cows' Milk:—

Constituents.	Per Cent.
Fat	3·76
Casein, Albumin, &c.	3·50
Sugar	4·75
Ash	0·72
Water	87·27

MEAT INSPECTION AND FOOD SUPPLY.—During the year the work carried out in this branch has been exceedingly heavy and in excess of that of any preceding year.

A large part of this work in the Public Slaughter Houses falls upon Mr. C. Moir, who has been assisted by Mr. J. H. Jones, and Mr. J. H. Jones, who has been assisted by Mr. J. H. Jones.

In the year 1900, by an arrangement between the Health Committee and the Property Committee, Mr. N. Rees, the Superintendent of the Routh Abattoirs, and three of his assistants were appointed to assist in the inspection of Meat at the Public Slaughter Houses. A special Inspector, Mr. McGregor, who was formerly a Butcher, was appointed to the post of Inspector of Food in the Routh Abattoirs, the Cardiff Port Sanitary Committee, and the Chief Port Sanitary Inspector, Mr. J. Jenkins, Inspector under the Companies Act, to carry out the "Orders" of the Board of Agriculture made under that

ent time the inspection of meat is carried out in a very complete manner.

ity of the Chief Inspector, Mr. Meir, who is a Veterinary Surgeon, to inspect
ed within the Borough, his attention is also called to any carcass suspected
unsound; having formed his opinion as to the nature of the disease or defect
the Officer of Health, without whose consent no meat is condemned as unfit

Table gives the amount of meat in pounds, found by the Medical Officer
for food, and destroyed either with the consent or by an order of a
in each year during the period 1891-1901:—

Year.	Meat found fit for food.	Meat destroyed with the consent of the Medical Officer.	Meat destroyed by order of the Medical Officer.	Total.
1891	1,326 „
1892	6,214 „
1893	3,209 „
1894	4,523 „
1895	3,896 „
1896	10,824 „
1897	9,929 „
1898	14,205 „
1899	21,217 „
1900	33,696 „
1901

During the year 1901 the number of animals slaughtered in the Public Slaughter-houses
was as follows:—

	Road Abattoir.	Canton Abattoir.
Swine...	6,505	761
Cattle...	38,085	5,909
Sheep...	3,664	311
Poultry...	21,131	3,597
	<u>69,385</u>	<u>10,578</u>

MEAT SEIZED OR SURRENDERED DURING THE YEAR 1901.

Place where found.	Number of Animals.	Number Condemned by Magistrate.	Number Destroyed by arrangement with Owner.	Total Weight in lbs.
Road	61	2	59	25,675
Canton	5	1	4	1,984
...	19	0	19	2,548
General	2	1	1	126
Butchers	4	2	2	273
	<u>91</u>	<u>6</u>	<u>85</u>	<u>30,606</u>

STATEMENT OF ARTICLES OF FOOD SEIZED OR SURRENDERED DURING THE YEAR 1901.

Place of Seizure.	Description of Articles Seized.	Condemned by Magistrate.	Destroyed by arrangement with owner.	Total Weight in lbs.
...	6 Boxes of Tinned Food	...	1	972
...	119 Tins of Preserved Food	1	..	257
...	10 Pieces of Bacon	1	...	130
...	10 Pieces of Bacon	1	...	300
...	2 Pieces of Bacon	1	...	14
...	2 Small Boxes of Bacon	...	1	15
...	2 Bags of Pigs' Feet	...	1	160
...	4 Pieces of Mutton	1	...	9
...	1 Piece of Mutton	1	...	6
...	6 Pieces of Beef	1	...	10
...	2 Boxes of Fish	1	...	400
...	1 Piece of Beef	...	1	65
...	18 Boxes of Fish	...	1	450
...	2 Boxes of Fish	...	1	200
...	...	8	6	3,088

STATEMENT OF WORK PERFORMED BY THE OFFICERS OF THE MEDICAL OFFICER OF HEALTH.

The following tables show the nature and extent of the administrative work of the Medical Officer of Health. The work is carried out by Mr. D. Vaughan, Chief Inspector of Nuisances, and his assistants, working under the supervision of the Medical Officer of Health, and I have pleasure in stating that the Inspectors have performed their difficult duties in a very satisfactory manner.

For the purposes of inspection, the Borough is divided into six districts as follows:—

District No.	comprising	Name of District Inspector
No. 1	Canton Ward ... Riverside Ward ...	T. W. Warren, Cert. San. Inst.
No. 2	Splott Ward ... part of Adamsdown Ward	W. Fisher, Cert. San. Inst.
No. 3	Roath Ward ... part of Adamsdown Ward	F. Glover, Cert. San. Inst.
No. 4	Central Ward ... part of Cathays Ward	S. Evans, Cert. San. Inst.
No. 5	South Ward ... Grangerstown Ward	J. W. Holden, Cert. San. Inst.
No. 6	Park Ward ... part of Cathays Ward	S. B. Henderson, Cert. San. Inst.

GENERAL INDEX

CATHAYS WARD.

GRANGETOWN WARD.

[illegible]

SOUTH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Boilers.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Scullery Sinks connected with Drain.	Dampness of Premises.	Other Nuisances.
...	12	...	...	1	...	...	12	...	12	...	...	...
...	...	...	...	3	...	...	5	5	...	...	...	...
...	17	...	...	3	...	...	17	...	16	...	...	...
...	...	...	...	1	...	...	3	1	2	...	...	...
...	30	...	...	4	...	...	30	...	30	...	...	7
...	1	...	...	...	...	...	11	...	11	...	...	2
...	33	...	...	...	...	...	34	...	15	...	...	3
...	47	...	...	1	...	...	48	...	27	...	...	7
...	50	...	...	11	...	...	50	...	50	...	...	11
...	44	...	...	6	...	...	44	...	44	...	...	12

ROATH WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Boilers.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Scullery Sinks connected with Drain.	Dampness of Premises.	Other Nuisances.
...	73	...	...	2	...	...	74	...	73	...	...	...
...	33	...	...	2	1	...	33	...	33	...	...	...
...	50	...	...	...	...	...	50	...	50	...	...	...
...	32	...	...	3	...	...	32	...	32	...	...	...
...	16	...	...	4	...	...	16	...	16	...	...	...
...	41	...	...	1	...	...	41	...	41	...	...	...
...	37	...	...	...	...	...	37	...	37	...	...	...
...	47	...	...	3	...	...	47	...	46	...	...	...
...	46	...	...	...	...	...	47	...	46	...	...	...
...	68	...	...	...	...	...	65	...	65	...	...	...
...	31	...	...	1	...	...	31	...	31	...	...	...

CANTON WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Boilers.	Choked Drains.	Defective W.C.	Defective Traps.	Scullery Sinks connected with Drain.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Scullery Sinks connected with Drain.	Dampness of Premises.	Other Nuisances.
...	40	...	...	...	...	...	40	...	40	...	12	17
...	37	...	...	...	...	...	37	...	37	...	13	...
...	59	...	...	...	...	...	59	...	59	...	32	7
...	44	...	...	...	...	...	44	...	44	...	21	23
...	44	...	...	...	...	...	44	...	44	...	22	...
...	43	...	...	...	...	...	43	...	22	...	2	11
...	24	...	...	...	...	...	24	...	24	...	2	...
...	10	...	...	...	...	...	10	...	3	...	...	...
...	52	...	...	...	...	...	52	...	52	...	22	2

SPLOTT WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Sanitary Appliances connected with Drains.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not ventilated.	Dampness of Premises.	Other Nuisances.
Rail	5	...	...	...	...	...	5	...	5	...	...	...
Stops	267	5	5	4	...	...	263	...	224	23	...	103
Marion	4	...	...	...	...	...	4	...	4	...	...	...
	110	9	1	4	...	...	107	...	107	7	...	11

ADAMSDOWN WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Sanitary Appliances connected with Drains.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not ventilated.	Dampness of Premises.	Other Nuisances.
	27	...	...	2	...	...	27	...	27	...	...	12
	25	...	...	...	...	...	20	...	20	...	...	12
Free	24	6	...	5	...	...	24	...	22	2	1	20
	2	...	...	1	...	...	2	...	2	...	...	...
	21	...	...	2	...	...	21	...	18	3	...	23
The	11	...	...	...	...	...	11	...	11	...	...	...
Tyn	23	...	...	3	...	...	20	...	23	...	...	29
Wool	7	...	...	...	...	...	7	...	7	...	...	6
South	6	...	...	1	...	...	5	...	6	...	...	...
South	21	...	...	...	...	...	21	...	21	...	...	...
Devi's	15	...	1	...	...	...	15	...	13	2	...	...
Dalrym	9	2	...	...	...	...	9	...	9	...	...	...
Triller	22	...	...	1	...	...	22	...	22	...	...	...
Taff	19	...	...	1	...	...	17	...	17	2	...	10
Morgan	23	...	...	1	...	...	23	...	23	...	...	16
Over	9	...	...	...	...	...	9	...	9	...	...	...
Goodway	14	1	1	2	...	...	14	...	14	1	...	11
Obel	35	12	...	7	11	...	37	...	35	2	...	9

RIVERSIDE WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Traps.	Sanitary Appliances connected with Drains.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not ventilated.	Dampness of Premises.	Other Nuisances.
Trevelthick	19	...	...	...	...	...	19	...	19	1	3	2
Rennie	29	1	...	2	...	...	29	...	29	2	1	2
Wells	33	6	4	9	...	...	33	...	33	4	7	11
Craddock	150	6	4	8	...	...	152	...	148	4	27	33
Eldon	120	9	12	7	...	...	114	...	120	9	10	23
Halkett	52	7	1	9	3	...	52	...	50	2	21	31
East	16	5	1	4	3	...	16	...	16	1	...	...

PARK WARD.

NAME OF STREET.	Number of Houses Inspected.	Defective Drains.	Choked Drains.	Defective W.C.	Defective Taps.	Seullery Sinks connected direct with Main.	Number of Water Closets.	Inside Closets not ventilated.	Outside Water Closets not ventilated.	Outside Closets not supplied with Water.	Dampness of Premises.	Other Causes.
... Street ...	137	1	...	1	...	...	142	...	135	78	25	31
... Street ...	50	...	...	9	...	...	51	...	50	50	1	4
... Street ...	31	...	...	5	...	...	31	...	31	31	13	29
... Street ...	9	...	...	...	...	...	7	...	9	9	...	4

INSPECTION OF COMMON LODGING HOUSES.—These houses are regulated by the provisions of the Public Health Act, 1875. Section 77 requires all Common Lodging Houses to be registered, and Section 80 empowers the Sanitary Authority to make Bye-Laws.

- (1) For fixing and from time to time varying the number of lodgers who may be received into a Common Lodging House, and for the separation of the sexes therein.
- (2) For promoting cleanliness and ventilation in such houses.
- (3) For the giving of notices and the taking precautions in the case of any infectious diseases; and
- (4) Generally for the well ordering of such houses.

In the year 1891, your Authority adopted Bye-laws which correspond closely with the "Model Bye-laws" of the Local Government Board.

COMMON LODGING HOUSES.

Total number on register	...	...	...	...	36
Registered rooms	...	...	...	...	132
Number of persons certified to accommodate	...	...	...	...	449
Day inspections	...	...	...	...	956
Night inspections	...	...	...	...	180
W.Cs. cleansed and repaired	...	...	...	...	46
„ supplied with water	...	...	...	...	3
Drains trapped and repaired	...	...	...	...	13
Special ventilation provided to rooms	...	...	...	...	16
Line-washed	...	...	...	...	—
Yards paved	...	...	...	...	10
Accumulations removed	...	...	...	...	29
Registered	...	...	...	...	8
...	—

SEAMEN'S LODGING HOUSES.

Total number of applications	...	...	...	461
„ „ Refused	...	...	...	66
„ „ Relinquished	...	...	...	273
Total number of persons licensed	...	...	...	121
„ „ houses, the occupiers of which have been licensed	...	...	...	122
Maximum number of lodgers authorised to be received in the above	...	...	...	1,239

SEAMEN'S LODGING HOUSES—Continued.

Number of day inspections...	...	...	...	...	3,608
„ night „ ...	...	...	...	...	259
„ houses in which sanitary improvements have been effected	...	...	...	...	459

NATURE OF SANITARY DEFECTS:—

Defective water-closets	...	...	...	...	64
Insufficient W.C. accommodation	...	...	...	...	6
Defective drains	...	...	...	...	42
Defective paving in yards	...	...	...	...	18
Defective bedroom ventilation	...	...	...	...	23
Houses with walls and roofs out of repair	...	...	...	...	58
Infectious disease discovered	...	...	...	...	20
Lime-washed	...	...	...	...	248
Legal proceedings taken	...	...	...	...	7

SALE OF FOOD AND DRUGS ACT.

The following articles were analysed during the year by Mr. Thomas, Analyst, and the results are given in the following Table:—

	Number of Samples.	Number of Genuine Samples.	Number of Samples Adulterated.	Fines.
...	...	2	—	
...	...	...	13	£5 and costs. £2 and costs.
...	...	...	...	£1 and costs. £5 and costs.
...	...	...	...	£2 and costs. £1 and costs.
...	...	...	...	£3 and costs. £2 and costs.
...	...	...	...	10s. and costs. 33 and costs.
...	...	...	...	10s. and costs. 40 and costs.
...	...	...	...	10s. and costs. 41 and costs.
...	...	...	...	10s. and costs. £2 and costs.
...	3	3	—	
...	5	4	—	1s. and costs.
...	3	3	—	
...	3	3	—	
...	13	13	—	
...	12	12	—	
...	13	13	—	
...	12	12	—	
...	
...	...	3	3	No proceedings taken.
...	
...	
...	3	3	—	
...	2	2	—	
...	2	2	—	
...	2	2	—	
...	17	17	—	
...	2	2	—	
...	21	21	—	
...	12	12	—	
...	...	1	—	
...	9	9	—	
...	3	3	—	
...	1	1	—	
...	4	4	—	
...	6	6	—	
...	1	1	—	
...	5	5	—	
...	1	1	—	
...	1	1	—	
...	...	4	—	
...	...	4	—	
...	...	2	—	
...	...	2	—	
...	...	6	—	

MAGISTERIAL PROCEEDINGS.

			Number of Cases.		Fines.		
					£	s.	d.
Proceedings under Sale of Food and Drugs Act	...	17	...	34	1	0	
" " Seamen's Bye-laws	...	8	...	51	5	0	
" " Common Lodging Houses	...	—	...	—			
" " Cowsheds and Milkshops Order	...	—	...	—			
" Housing of the Working Classes Act	...	33	...	—			
" Factory Act	...	1	...	0	5	0	
" Shop Hours Act	...	—	...	—			
" Public Health Act	...	19	...	48	0	0	
" Town Police Clauses Act (Sec. 51)	...	13	...	0	7	6	
				91	£133	18	6

I have the honour to be, Gentlemen,

Your obedient Servant,

EDWARD WALFORD, M.D.,

MEDICAL OFFICER OF HEALTH.

Report of Mr. D. VAUGHAN, Chief Inspector of Nuisances, and
of Canal Boats, for the year 1901.

NUISANCES:—

houses inspected	...	...	...	...	...	4,057
inspected	...	...	...	...	...	...
houses reported without legal proceedings	...	...	...	...	...	4,057
houses with " "	...	...	...	...	...	—
houses so as to be a nuisance	...	...	...	...	...	53
houses and foul accumulations	...	...	...	...	...	372
houses from smoke	...	...	...	...	...	6
houses water in cellar	...	...	...	...	...	72
houses unfit for human habitation	...	...	...	...	...	28
houses for sale	...	...	...	...	...	897
houses cleaned and cleansed	...	...	...	...	...	389
houses repaired	...	...	...	...	...	60
houses	...	...	...	...	...	812
houses	...	...	...	...	...	457
houses W.C.s. cleansed	...	...	...	...	...	61
houses water-closets repaired	...	...	...	...	...	72
houses	...	...	...	...	...	...
houses	...	...	...	...	...	17
houses dwelling houses	...	...	...	...	...	6
houses	...	...	...	...	...	...
houses	...	...	...	...	...	...
houses repaired...	...	...	...	...	...	939
houses and workshops cleansed and lime-washed	...	...	...	...	...	165
houses W.C. accommodation provided	...	...	...	...	...	15
houses	...	...	...	...	...	...
houses water-closets abolished	...	...	...	...	...	2
houses supply to house	...	...	...	...	...	2
houses apparatus to water supply	...	...	...	...	...	1

DISINFECTION:—

houses disinfected	...	...	...	...	...	1,672
houses bedding and clothing disinfected	29,701
houses " destroyed	299

OFFENSIVE TRADES:—

houses visited...	1,015
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SLAUGHTER HOUSES AND MARKETS:—

houses and slaughter houses	163
houses and markets	200
houses destroyed unfit for food—Beef, 23,429 lbs.; Fruit, 40 lbs.; Pork, 4,874 lbs.; Mutton, 50 lbs.; Mutton, 663 lbs.; Fish, 850 lbs.; Bacon, 464 lbs.; Ham, 130 lbs.; Poultry, 120 lbs.; Tinned Provisions, 1068 lbs.; Condensed Milk, 228 lbs.						
houses and Provision Shops inspected	...	...	...	...	...	4,810

CHEMISTS, MILKSHOPS AND DAIRIES:—

houses and chemists on register	...	...	...	...	...	24
houses	...	...	...	...	...	...

Total ... 507

Date	Atmospheric thermometer	Barometer	Max and min.	Mean of Max. min.	Mean of Min. max.	Mean of Month.	Barth.		Weather.			Deaths.				Deaths.	
							1 foot.	4 feet.	Dry Bulb.	Wet Bulb.	Relative Humidity.	Amount in Inches.	Greatest Fall in 24 hours.	Date of Greatest Fall.	Days on which 0.01 or more rain fell.	All Causes.	Seven Causes.
March	64.0	48.9	44.0	44.9	42.5	59.1	47.5	47.0	84	3.4	...	90th	17	151	13
April	71.0	57.3	43.9	46.9	47.5	46.1	45.7	45.4	97	4.54	...	5th	12	220	19
May	71.0	57.3	43.9	46.9	47.5	46.1	45.7	45.4	97	4.54	...	3rd	14	160	14
June	74.0	60.0	45.0	48.0	48.0	51.4	48.0	48.0	91	3.00	...	1st	9	143	11
July	75.0	61.1	45.0	48.2	48.0	51.0	45.1	45.0	86	2.06	...	1st	3	122	10
August	76.0	67.2	52.9	60.0	60.7	59.1	58.8	58.4	98	4.00	...	13th	14	142	29
September	70.0	65.2	50.0	57.7	58.7	55.7	57.7	55.5	86	4.36	...	13th	17	136	24
October	67.0	56.9	42.5	49.7	52.0	52.4	50.6	48.8	87	2.64	...	1st	21	120	17
November	63.0	50.9	32.2	41.5	44.6	49.3	39.7	37.7	84	1.50	...	11th	8	164	17
December	59.8	47.2	31.2	39.2	40.9	43.8	40.5	38.6	84	7.15	...	7th &	21	189	09

perature of Each Month in the Year, as compared with that of the previous Five Years.

	1896	1897	1898	1899	1900	Mean of 5 years	1901	1902	1903	1904	1905	1906
...	35°4	35°5	36°3	41°6	35°9	44°0	42°2	36°3	37°9			
...	43°0	29°3	33°9	40°3	43°5	41°3	41°3	39°3	37°8			
...	44°4	41°6	41°9	45°5	44°6	41°1	42°1	38°3	40°6			
...	47°0	47°9	47°3	48°0	46°3	46°6	47°2	46°6	46°9			
...	49°7	54°4	52°6	52°9	49°1	49°9	52°0	50°4	53°5			
...	57°1	58°5	58°5	61°4	59°5	55°9	59°8	55°3	57°3			
...	60°3	60°0	61°6	61°4	62°7	60°6	63°8	63°9	64°2			
...	57°5	59°0	59°8	58°6	60°9	61°5	68°3	59°3	60°0			
...	53°2	59°7	56°6	56°8	54°4	58°8	57°8	55°5	57°7			
...	50°3	46°7	47°9	46°2	51°2	52°7	48°9	49°1	49°7			
...	47°2	47°2	44°6	39°9	46°1	45°7	47°0	44°5	41°5			
...	41°8	40°0	40°0	40°0	42°5	46°7	37°3	43°5	40°9			

The following Table illustrates the Daily Direction of Wind throughout the Year 1901.

Direction of Wind	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year 1901
...	1	4	1	1	...	1	4	...	...	3	4	2	21
...	11	8	12	8	19	9	15	9	12	12	14	9	141
...	4	16	6	3	2	7	5	10	3	3	4	2	59
...	...	...	...	...	1	...	...	1	1	2	...	1	7
...	4	1	1	7	5	6	3	9	3	2	2	3	46
...	3	1	7	9	3	5	2	2	8	6	2	5	59
...	...	...	4	1	1	...	1	...	2	2	1	1	13
...	2	...	...	1	...	2	1	...	1	1	3	8	19

TABLE 1. RAINFALL AT CHICAGO, ILL., FOR EACH MONTH, 1876-1901.

Year.	JANUARY.				FEBRUARY.				MARCH.			
	Amount in Month, Inches.	No. on which more rain fell.	Grate (1 fall) in 24 hours.	Date of grate (1 fall).	Amount in Month, Inches.	No. on which more rain fell.	Grate (1 fall) in 24 hours.	Date of grate (1 fall).	Amount in Month, Inches.	No. on which more rain fell.	Grate (1 fall) in 24 hours.	Date of grate (1 fall).
1876	1.91	12	0.68	2nd	5.23	22	0.90	11th	3.92	22	0.54	9th
1877	5.77	27	0.72	3rd	2.79	20	0.42	11th	2.66	21	0.55	23rd
1878	1.73	17	0.36	27th	3.07	16	0.87	27th	1.25	8	0.40	28th
1879	5.95	10	1.30	1st	5.95	23	0.86	20th	1.14	14	0.32	23rd
1880	0.87	11	0.42	13th	3.88	22	1.06	18th	1.90	12	0.75	2nd
1881	0.92	12	0.23	26th	4.81	15	1.12	9th	3.88	16	0.68	3rd
1882	3.19	13	0.82	2nd	2.56	15	0.60	28th	2.26	19	0.32	1st
1883	5.75	25	1.11	24th	3.73	20	0.65	10th	0.60	10	0.12	19th
1884	6.03	21	0.99	31st	4.40	22	1.35	17th	3.39	16	1.27	3rd
1885	3.71	20	0.58	9th	3.65	22	0.67	26th	1.87	16	0.53	29th
1886	5.03	23	0.91	30th	1.32	11	0.62	28th	3.97	13	0.68	20th
1887	2.76	15	0.73	7th	1.45	6	0.73	3rd	3.21	10	1.16	15th
1888	1.70	12	0.49	1st	1.07	9	1.09	2nd	4.62	15	0.76	24th
1889	1.53	10	0.58	9th	2.00	16	0.64	10th	3.89	16	1.17	8th
1890	5.21	24	0.61	26th	0.55	7	0.22	19th	1.52	14	0.28	24th
1891	3.58	13	1.26	23rd	0.05	2	0.03	2nd	1.76	16	0.31	15th
1892	2.10	15	0.70	16th	2.38	19	0.58	20th	1.18	6	0.48	15th
1893	2.98	19	0.94	12th	6.04	22	0.95	25th	0.31	6	0.14	2nd
1894	3.20	23	0.44	19th	3.68	20	0.78	17th	3.37	13	0.82	1st
1895	3.88	20	0.71	19th	0.17	4	0.08	24th	3.92	21	0.85	27th
1896	0.61	6	0.40	24th	1.39	9	0.80	13th	4.47	24	0.54	7th
1897	3.78	17	0.50	31st	5.73	21	0.70	4th	6.29	19	0.90	21st
1898	1.86	10	0.48	10th	1.71	17	0.22	18th	1.12	9	0.53	6th
1899	5.50	20	1.03	20th	3.89	13	0.79	4th	1.39	6	0.88	25th
1900	5.81	23	1.26	6th	6.40	20	0.99	18th	1.06	6	0.33	21st
1901	2.48	17	0.59	26th	1.01	10	0.05	1st	2.19	12	0.31	6th

YEAR.	JULY.				AUGUST.				SEPT.			
	Rainfall in Month, inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month, inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.	Rainfall in Month, inches.	Days on which 0.01 or more rain fell.	Greatest fall in 24 hours.	Date of greatest fall.
1876	1.91	10	0.41	6th	6.06	27	2.72	19th	7.03	19	1.23	26th
1877	4.94	18	1.27	14th	5.70	21	1.42	27th	3.25	8	1.39	27th
1878	2.01	9	0.78	23rd	10.82	24	3.64	15th	3.21	9	1.28	22nd
1879	4.00	21	0.81	19th	8.12	22	1.34	27th	4.85	17	0.69	7th
1880	6.64	23	0.95	17th	0.77	7	0.27	2nd	3.67	15	0.77	17th
1881	2.62	15	0.77	30th	6.94	20	1.45	22nd	2.09	13	0.48	22nd
1882	5.77	24	0.84	6th	6.75	16	1.14	22nd	3.94	17	0.79	28th
1883	3.56	21	0.82	20th	2.09	16	0.73	8th	6.14	19	1.53	23rd
1884	4.05	20	0.94	23rd	2.21	9	0.84	31st	1.96	15	8.64	21st
1885	0.72	6	0.31	18th	2.74	12	1.07	6th	6.51	23	1.76	10th
1886	4.85	17	0.71	29th	1.68	9	0.44	9th	4.08	14	0.75	4th
1887	1.51	13	0.85	26th	2.88	11	1.02	16th	4.07	17	1.24	1st
1888	6.83	25	1.16	7th	3.50	17	0.74	29th	1.21	8	0.52	27th
1889	3.85	12	1.16	9th	3.90	15	0.65	2nd	2.09	9	1.53	23rd
1890	3.57	19	0.73	17th	3.95	20	0.95	9th	1.57	11	0.50	17th
1891	2.21	17	0.36	2nd	7.19	22	1.10	26th	2.43	19	0.51	3rd
1892	3.33	9	1.50	12th	4.64	16	1.62	27th	3.95	14	1.38	29th
1893	3.88	17	0.80	10th	3.05	14	0.52	20th	2.03	15	0.89	28th
1894	4.22	20	0.97	24th	4.55	18	1.55	25th	2.22	10	0.80	22nd
1895	4.71	15	0.94	23rd	4.08	17	1.19	12th	1.17	10	0.40	6th
1896	1.14	8	0.35	24th	2.89	15	0.84	19th	7.34	23	1.10	17th
1897	2.51	8	0.80	6th	5.42	16	1.30	30th	6.37	13	1.38	29th
1898	0.40	2	0.20	1st	3.48	10	0.67	6th	1.94	4	1.38	29th
1899	0.32	6	0.09	1st	1.74	7	0.56	5th	2.59	13	0.74	26th
1900	0.63	8	0.27	27th	4.06	14	0.88	5th	1.32	10	0.50	26th
1901	2.58	8	1.00	23rd	4.00	14	1.30	13th	4.36	17	1.52	13th

NAME	CUTTING		MOYAL		DYEING		NAME
	Alk. in lb.	Alk. in 24 hr. cut.	Reck. in Month, Inches.	Days on which, ratio in 24 hr. cut.	Days on which, ratio in 24 hr. cut.	Days on which, ratio in 24 hr. cut.	
1876	3.84	17	5.27	18	0.75	12th	1639
1877	3.89	16	6.54	25	1.06	24th	4675
1878	3.55	18	5.76	13	0.84	9th	4871
1879	1.51	12	0.43	8	0.18	20th	1175
1880	1.95	15	3.67	15	0.90	15th	3885
1881	3.23	13	4.98	23	0.65	24th	4162
1882	8.35	25	6.26	21	0.90	7th	5660
1883	4.55	17	6.38	24	0.80	21st	5878
1884	1.04	17	2.12	16	0.47	30th	3689
1885	5.39	22	5.47	14	1.11	27th	4099
1886	5.63	21	4.33	21	1.03	30th	4894
1887	2.66	13	3.48	21	0.69	3rd	2349
1888	1.74	11	7.04	25	1.13	12th	5349
1889	3.77	25	1.87	12	0.75	24th	3155
1890	1.52	16	3.89	20	0.67	6th	2923
1891	7.19	29	3.91	15	0.74	28th	4834
1892	2.65	15	3.25	18	0.66	4th	2432
1893	2.98	21	2.30	13	0.58	1st	3534
1894	1.91	11	4.72	20	0.83	13th	1113
1895	3.67	15	4.24	23	0.60	5th	3264
1896	1.65	19	0.96	5	0.60	18th	3569
1897	3.77	7	1.82	7	0.63	24th	5680
1898	7.30	14	4.35	16	1.39	23rd	607
1899	1.57	11	3.29	11	0.60	9th	3045
1900	3.75	21	4.99	22	0.71	30th	4190
1901	2.66	24	1.50	1	0.51	7th & 28th	3094

TABLE 4.

TABLE 4.

VITAL STATISTICS OF THE DISTRICT OF COLUMBIA FOR THE YEAR 1901 AND PREVIOUS YEARS.

Year.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.				Total Deaths in Institutions in District.	Deaths of Non-residents registered in Public Institutions in District.		Deaths of Residents registered in Public Institutions in District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.
		Number.	Rate.*	Under 1 Year of Age.		At all Ages.			Deaths in Public Institutions in District.	Deaths in Public Institutions in District.		
				Number.	Rate per 1,000 Births registered.	Number.	Rate.					
1	2	3	4	5	6	7	8	9	10	11	12	13
1891	130,283	4,737	36.5	725	153	2,873	22.0	390	...	...	2,873	22.0
1892	132,825	4,776	35.8	782	163	2,560	19.2	311	...	...	2,560	19.2
1893	136,168	5,119	37.5	918	179	2,794	20.4	332	...	...	2,794	20.4
1894	139,519	5,100	36.5	722	141	2,415	17.3	263	...	...	2,415	17.3
1895	142,958	5,321	37.1	951	179	2,840	19.9	342	...	...	2,840	19.9
1896	146,479	5,591	38.1	923	165	2,826	19.2	364	31	...	2,795	19.0
1897	150,087	5,279	35.1	796	151	2,568	17.1	303	34	...	2,534	16.8
1898	153,783	5,520	35.9	870	158	2,684	17.4	312	57	...	2,627	17.0
1899	157,414	5,309	33.7	976	184	2,951	18.7	321	93	...	2,858	18.1
1900	161,452	5,198	32.2	730	141	2,745	17.0	314	78	...	2,667	16.5
1891-1900	145,503	5,191	35.7	839	151	2,425	15.7	325	...	...	2,406	15.5
1901	165,303	5,206	31.4	775	148	2,671	16.1	352	75	57	2,653	16.0

* Rates in Columns 4, 6, and 13 calculated per 1,000 of estimated population.

Total population at all ages ... 164,333
 Number of inhabited houses ... 27,971 At Census of 1901.
 Average number of persons per house ... 5.8
 Area of District in acres (exclusive of area covered by water) ... 6,373

POPULATION OF THE DISTRICT OF COLUMBIA IN 1891 AND SUBSEQUENT YEARS

Year of census	COUNTY BOARD OF DISTRICT OF COLUMBIA (White population)				DISTRICT OF COLUMBIA (Total population)				CENTRAL CATHOLIC Registration (Sub-district)				WEST CATHOLIC Registration (Sub-district)			
	Population est- imated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population est- imated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population est- imated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population est- imated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
1891	130,283	4,737	2,871	725	130,283	14,144	6,644	249	51,300	1,617	909	330	50,051	2,012	988	330
1892	132,895	4,789	2,559	782	132,895	14,144	7,111	266	51,217	1,610	924	279	51,321	2,000	943	302
1893	136,168	5,121	2,796	918	136,168	14,144	7,531	307	51,300	1,617	1,009	308	53,861	1,942	1,086	361
1894	139,519	5,103	2,408	722	139,519	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1895	143,380	5,321	2,323	651	143,380	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1896	146,479	5,591	2,784	923	146,479	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1897	150,773	5,773	2,554	1,133	150,773	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1898	153,383	5,550	2,677	850	153,383	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1899	157,414	5,309	2,858	976	157,414	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1900	161,552	5,115	2,637	730	161,552	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
Averages of Years 1891 to 1900	145,103	5,196	2,693	839	145,103	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231
1901	165,308	5,206	2,653	775	165,308	14,144	7,531	311	51,300	1,610	907	229	55,874	2,000	1,000	231

TABLE 3. CASES NOTICED IN WHOLE DISEASE.

	At all Ages.	At Ages—Years.					Total Cases Noted in Each Locality.				Cases Cases Reported to Hospital from Each Locality.		
		Under 1.	1 to 5.	5 to 15.	15 to 25.	25 to 65.	65 and upwards.	East Cardiff Regis. Sub-Dist.	Central Cardiff Regis. Sub-Dist.	West Cardiff Regis. Sub-Dist.	East Cardiff Regis. Sub-Dist.	Central Cardiff Regis. Sub-Dist.	West Cardiff Regis. Sub-Dist.
Small pox ...	3	1	1	1	...	5	...	8	...	...	3	...	...
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria ...	724	9	227	357	77	53	1	179	189	356	98	82	171
Meningeal Group	10	1	5	1	...	...	...	...	2	8	...	...	...
Erysipelas ...	152	4	3	16	24	102	3	39	55	58	...	...	...
Scarlet Fever ...	1,362	28	362	834	99	39	...	597	...	195	254	172	189
<i>Typhus</i> Fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...
Enteric Fever ...	73	...	3	21	30	29	...	15	25	27	12	15	15
...
...	3	...	...	...	1	2	...	...	1	2	...	5	2
Paratyphoid Fever	16	...	...	...	...	16	...	6	2	8	...	...	...
...	1	...	...	...	...	1	...	1	...	...	...	...	...
	2,319	43	601	1,233	221	247	4	818	917	...	...	917	...

LOCAL GOVERNMENT BOARD TABLE

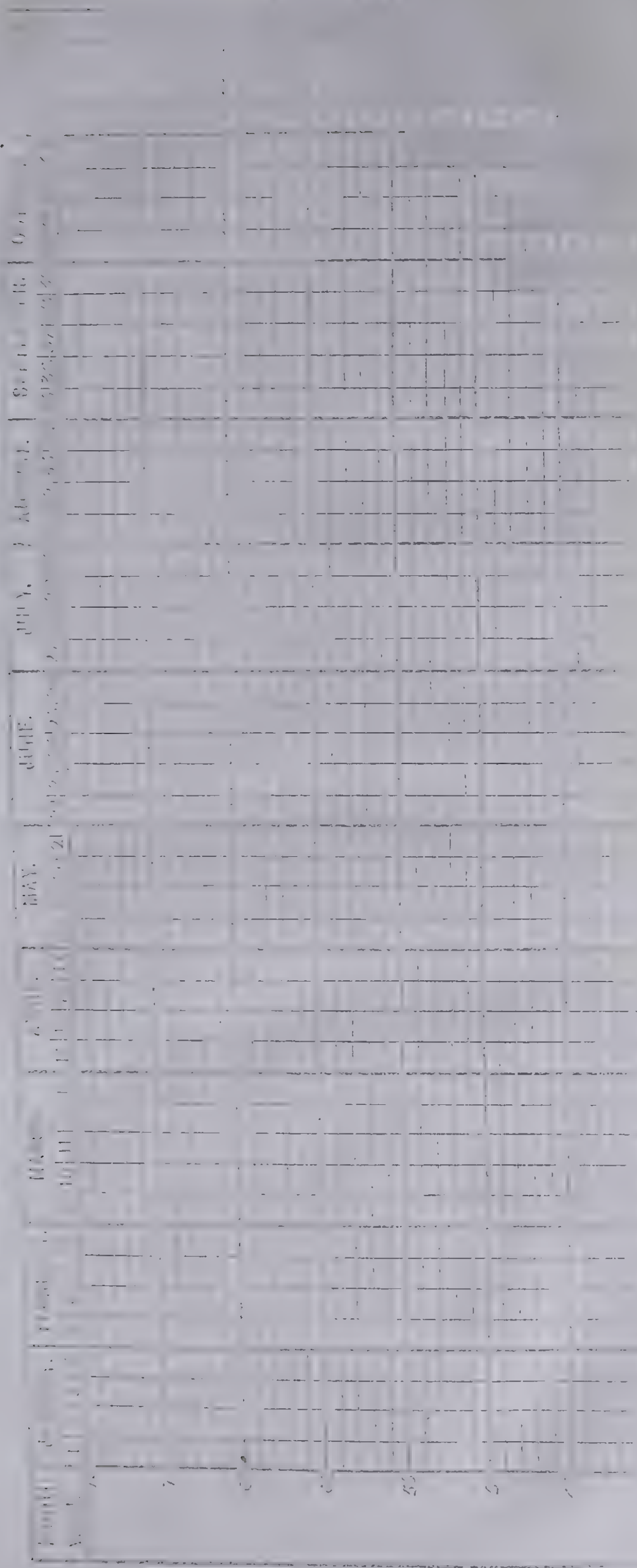
TABLE IV.

CAUSES OF, AND AGES AT, DEATH DURING YEAR 1901.

CAUSES OF DEATH.	DEATHS IN OR BELONGING TO WHOLE DISTRICT AT SUBJOINED AGES.							DEATHS IN OR BELONGING TO LOCALITIES AT ALL AGES.			Total Deaths in Public Institutions in the District.
	All Ages.	Under 1 year.	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards.	East Cardiff Reg. Sub-dis.	Central Cardiff Reg. Sub-dis.	West Cardiff Reg. Sub-dis.	
Small-pox ...	1	...	...	...	...	1	...	...	...	1	1
Diphtheria ...	3	1	2	...	...	...	...	...	...	3	1
Scarlet fever ...	29	...	23	6	...	...	...	6	4	19	11
Whooping-cough ...	86	42	41	3	...	...	...	17	31	38	...
Diphtheria and mem- branous croup ...	78	3	47	27	...	1	...	8	20	50	29
Measles ...	6	4	2	...	...	...	...	3	1	2	...
Enteric, ...	11	...	1	1	3	...	...	1	4	6	...
Epidemic influenza ...	26	2	...	1	1	17	5	10	11	5	...
Typhoid ...	1	...	...	...	...	...	...	1	...	...	...
Scarlet ...	76	67	5	1	...	2	1	28	21	27	...
Measles ...	52	34	9	2	1	...	2	34	13	5	...
Scarlet fever ...	5	...	...	...	...	...	...	...	1	4	...
Diphtheria ...	5	2	...	...	...	...	...	1	...	4	...
Other febrile diseases ...	10	2	2	...	1	...	...	2	3	5	...
Diarrhoea ...	179	3	3	8	38	123	2	43	45	91	...
Other febrile diseases ...	39	11	6	4	8	...	...	17	8	1	...
Other febrile disease ...	75	...	...	1	...	...	...	24	23	28	...
Diarrhoea ...	209	...	...	...	...	...	...	57	75	77	...
Enteric ...	287	78	62	12	16	88	31	82	95	110	...
Measles ...	11	3	1	...	...	...	2	1	7	3	...
Other diseases of Res- piratory organs ...	20	3	4	...	...	10	...	8	...	...	...
Diarrhoea ...	33	...	...	...	2	23	4	7	7	18	...
Diseases of Liver } Diarrhoea ...	6	2	1	...	...	...	1	...	1	5	...
Diarrhoea ...	84	84	...	...	...	...	...	25	24	35	...
Accidents, of ...	19	...	...	...	2	17	...	8	4	7	...
Diarrhoea ...	182	4	4	11	15	147	41	53	63	61	...
Diarrhoea ...	77	3	9	7	13	...	7	11	54	12	...
Diarrhoea ...	13	...	...	...	...	12	1	2	9	2	...
Diarrhoea ...	4	2	...	...	...	1	1	1	2	1	...
All other causes ...	1,027	363	75	35	30	289	235	218	375	434	188
All causes ...	2,653	776	317	120	131	903	406	668	912	1,073	662

100000

Weekly Measurements of the Red River, May, 1900, and 1901



1901.
METEOROLOGICAL OBSERVATIONS,

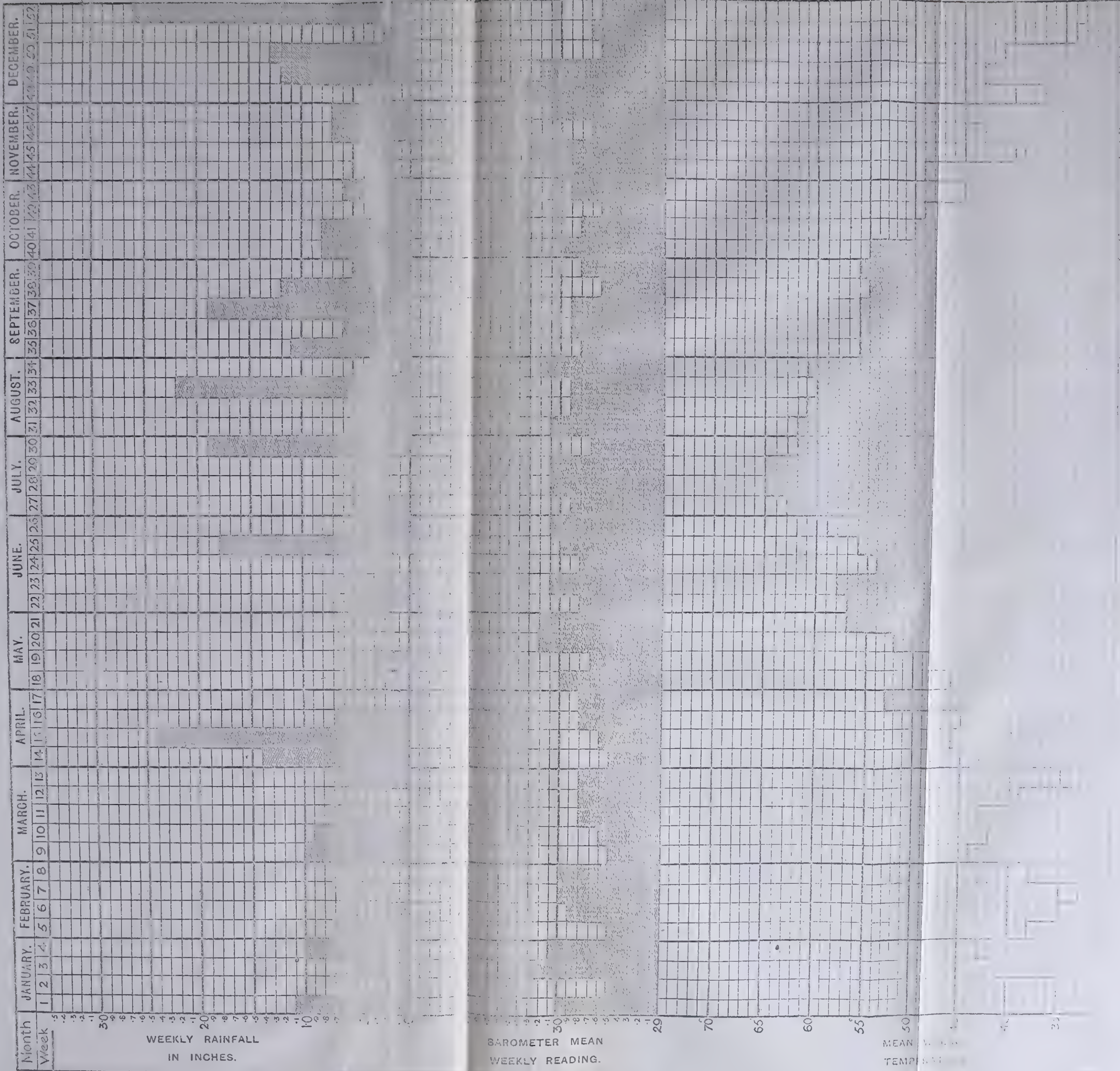


Chart Shewing death-rate per 1,000 of the population from Zymotic Diseases during the Years 1878—1901.

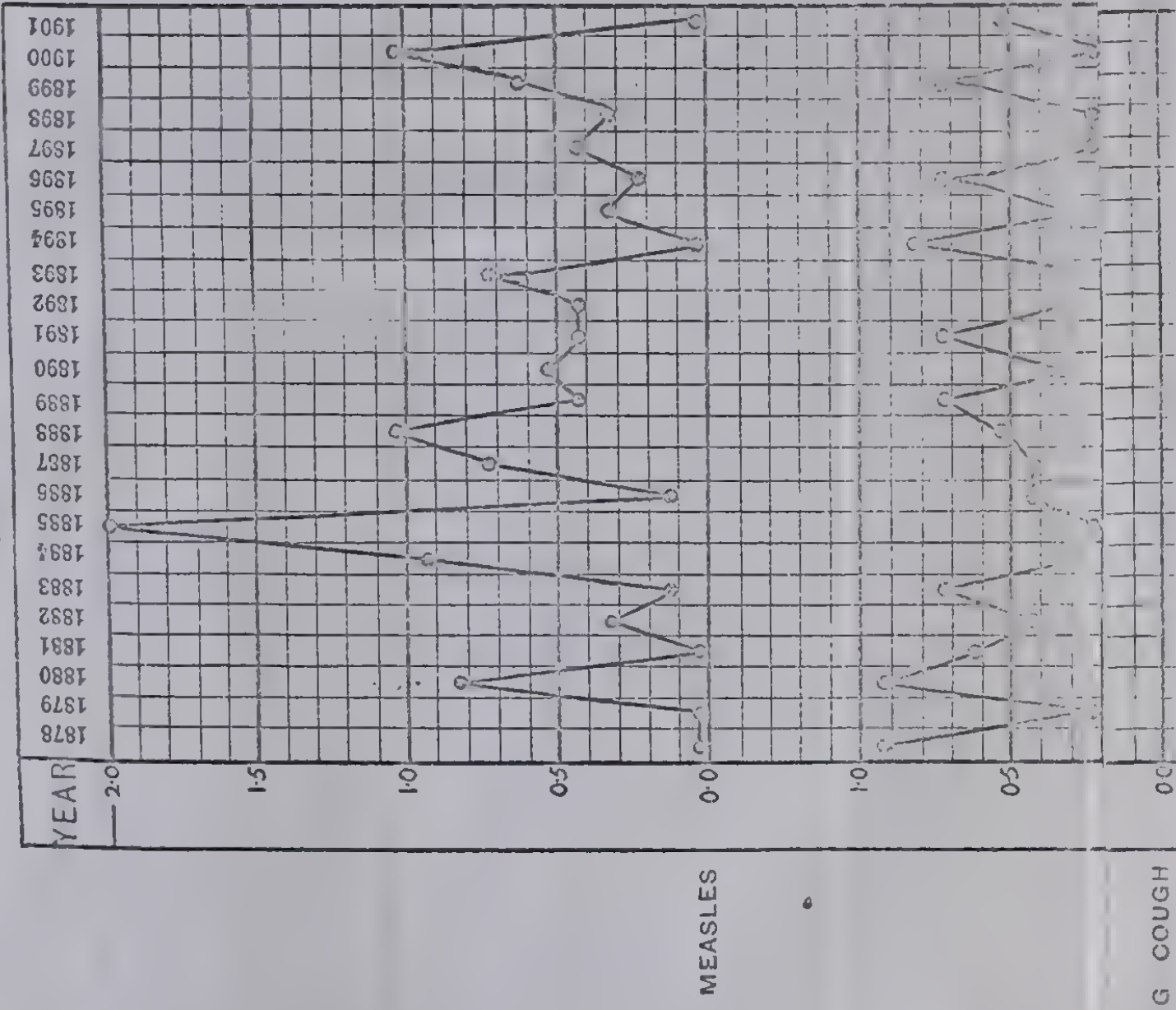
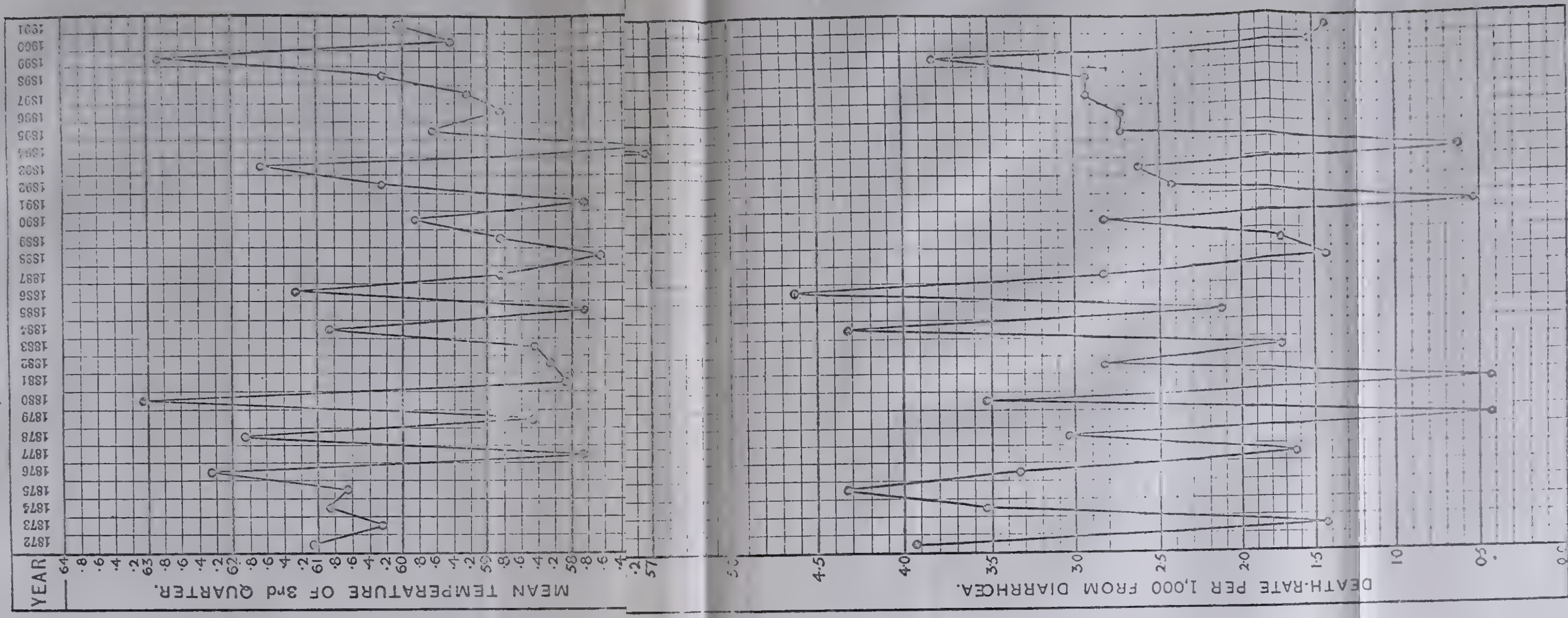
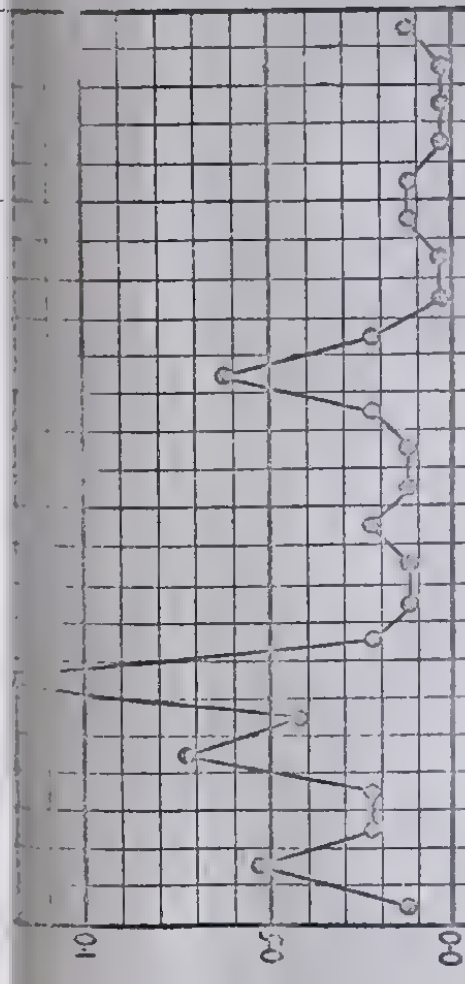


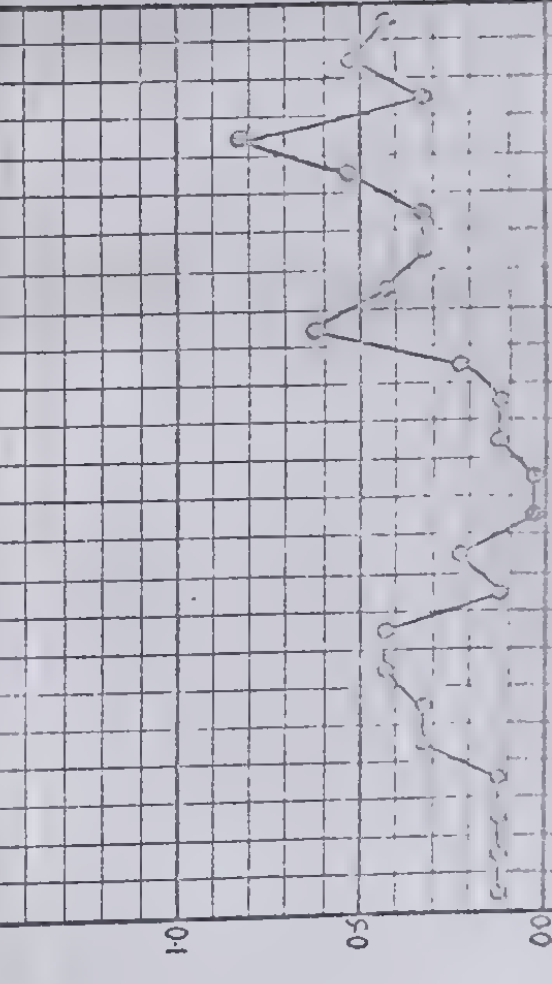
Chart shewing the influence of temperature on the Diarrhoea death-rate in Cardiff, during the Summer quarters of the Years 1872—1901



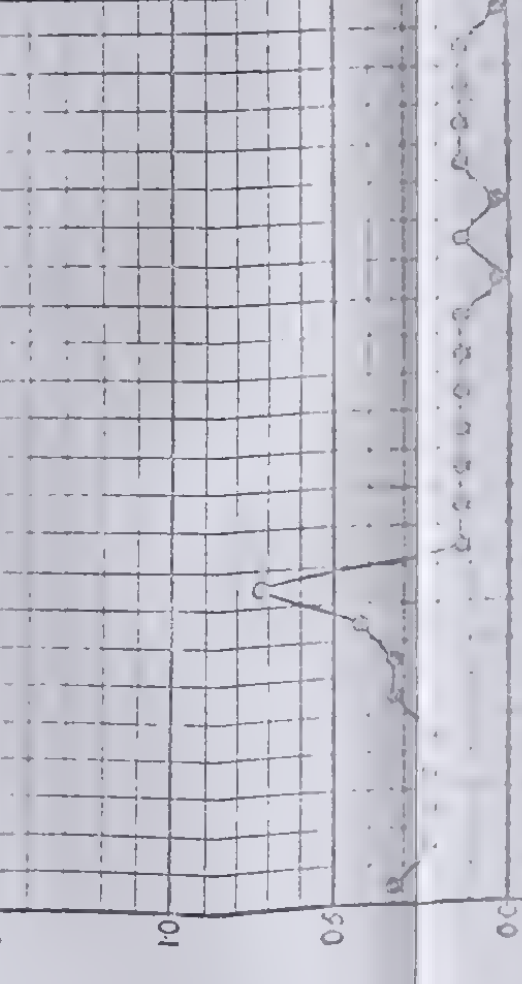
SCARLET FEVER



DIPHTHERIA



ENTERIC FEVER





WEEKLY NOTIFICATIONS OF SCARLET FEVER, DIPHTHERIA & TYPHOID FEVER.

